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Speciation of Dowitchers in Iowa

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There is little information on the identification of Long-billed and Short-billed Dowitchers in Iowa. There are a few field reports identifying the two species by voice but no descriptions for visual identification. The older field guides do not distinguish the two species and the newer ones do not provide enough information to do so. The problem is further compounded by the variety of plumages and usual silence of these birds while in Iowa.

Owing to our frustration in separating Dowitchers we have undertaken a review of the literature, a study of Iowa specimens and an effort to identify Dowitchers in the field. At close range, most Iowa Dowitchers can be identified as to species. We intend to illustrate how to do this and encourage the collection of more detailed information on Dowitchers in Iowa.

The basis for separating Long-billed (*Limnodromus scolopaceus*) and Short-billed (*Limnodromus griseus*) Dowitchers is best laid out by Pitelka (1950) in a study of 2,908 specimens from across the country. The bases for separation of species include geographic distribution, voice, measurements and plumage. The major portion of this article will be devoted to plumage differences including a review of the feather anatomy and moult cycle.

GEOGRAPHIC DISTRIBUTION

L. scolopaceus nests in northwest Alaska and spreads out in migration to cover the entire United States, although it is uncommon on the east coast, especially the upper portions. It winters from the southern U. S. to Guatamala. *L. griseus* has three nesting areas each occupied by a subspecies. *L. g. griseus* nests on the Ungava Peninsula east of Hudson Bay, *L. g. hendersoni* nests in central Canada west of Hudson Bay and *L. g. caurinus* nests in southern Alaska. The eastern and western subspecies migrate predominantly to their respective coasts while *L. g. hendersoni* migrates through the Mississippi valley and Great Lakes region and to the east coast, especially the southern portions. Since *hendersoni* is the subspecies seen in Iowa, the morphologic examples will be limited to this subspecies.

L. griseus winters as far north as *L. scolopaceus* (to California and the central Atlantic coast) but it goes further south, as far as Brazil and Peru. It is hypothesized that the two forms became separated during glacial periods with the Long-billed nesting to the north and west of the glaciated territory and the Short-billed remaining south of the iced areas.

In migration and on the wintering grounds there is a striking tendency of Short-billed Dowitchers to prefer salt water and Long-billed to prefer fresh water, where such habitat is available. In Iowa, however, they both occupy the same habitat, namely mud flats.

Migration times differ in that Long-bills migrate north earlier and return later. In Iowa, one would expect to see Long-bills in April and early May and Short-bills from early to late May. Eight spring *L. scolopaceus* specimens from Iowa were collected from 26 April to 8 May and 16 *L. griseus* are dated from 8 to 24 May. A series of specimens in northwest Missouri (Easterla 1970) show Long-bill migration from early April to early May with peak in late April and Short-bill migration all during May with peak in mid-May.

In the fall, Short-bills begin returning in July and Long-bills in August. Iowa specimens include six *L. griseus*, all juvenals, collected from 6 to 30 August, and

five *L. scolopaceus* including one juvenal from 6 September, three juvenals partially moulted to basic plumage from 28 September to 20 October and one in basic plumage from 6 October. On the east coast *L. griseus* shows three fall peaks (Jehl 1963). Females apparently leave the nesting grounds before incubation is complete and peak in New Jersey in early to mid-July. Males peak in late July to early August and juvenals arrive from mid-August to early September. *L. scolopaceus*, uncommon on the east coast, does not arrive there until August. It is reasonable to suspect that fall migration times of *L. griseus* in Iowa might be similar to the east coast because this species typically makes long first migration flights before stopping to feed. *L. scolopaceus* could arrive earlier in Iowa than on the east coast because of the difference in distance from the breeding grounds.

VOICE

Authorities consider the voice differences to be diagnostic. Short-bills utter a mellow tu-tu-tu reminiscent of a Yellowlegs. Long-bills make a rasping keek sound. The quality of the sound is more important than the number of notes. Both have a similar alarm note, a soft, low-pitched pit-pit-pit. Unfortunately, most Iowa Dowitchers are silent or their sounds cannot be separated from those of other shore birds.

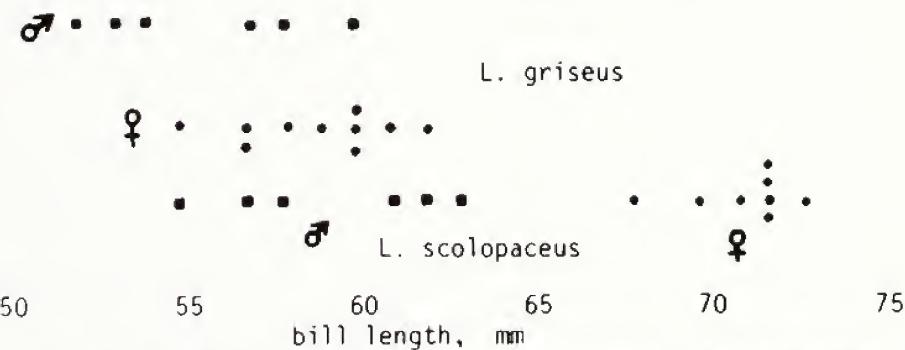


Figure 1. Bill length of dowitcher specimens at the University of Iowa Museum of Natural History. Female *L. scolopaceus* bills (mean 71.4 mm) do not overlap with males (mean 59.8). Male *L. scolopaceus* bills, however, overlap with both female and male *L. griseus* (means 58.9 and 55.7).

MEASUREMENTS

Pitelka presents extensive data on measurements which allow separation of most Dowitchers in the hand. Female Long-bills have distinctly longer bills than male Long-bills. The sex difference is less striking with Short-bills. Male Long-bills overlap in bill length with both female and male Short-bills. Figure 1 shows bill length of the University of Iowa specimens. Bill length is a useless field mark except, perhaps, to indicate the possibility of a female Long-bill. By evaluating the combination of bill length, leg length and wing length by sex, most Dowitchers can be speciated in the hand. Long-billed Dowitchers have long bills and legs and short wings; Short-bills have short bills and legs and long wings.

FEATHER ANATOMY

Anatomic sites important for speciating Dowitchers in the field are shown in Figure 2. The scapulars, tertials and wing coverts are particularly crucial for aging and for speciation of first year birds. The scapulars arise at the junction of the upper surface of the wing and the back, and in a standing bird lie along the

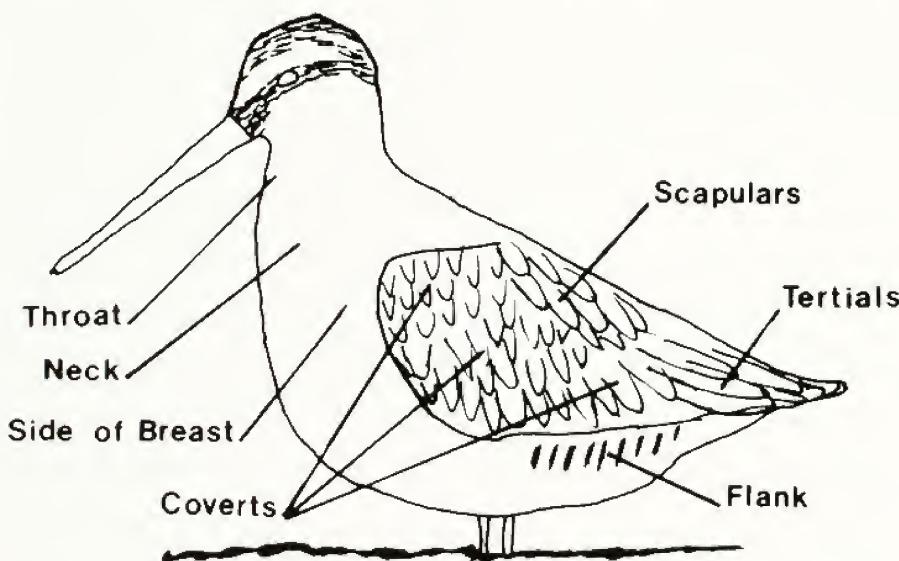


Figure 2. Anatomic sites used in descriptions of Dowitchers.

junction of the back and upper margin of the folded wing. Wing coverts arise from the inner anterior part of the wing and overlap the bases of the primaries and secondaries. The rearmost row, the greater coverts, are quite long and in a standing bird, all but the tips of the secondaries are hidden beneath them. The tertials are the very elongate innermost secondaries. In a bird at rest they lie along the upper surface of the primaries, often covering all but their tips as well as obscuring the tail.

MOULT CYCLE

Dowitchers in definitive plumage (those over a year old) undergo two moults per year. The prebasic moult, which produces the basic (winter) plumage, begins in late summer or early fall, and is a complete moult. The prealternate moult, which produces the alternate plumage (spring or breeding plumage) begins in late March or early April and is complete in early May. This is a partial moult, involving the body feathers, scapulars, tertials and some wing coverts, but not the tail, primaries or secondaries. There is no sexual dimorphism in either basic or alternate plumage.

Juvenal dowitchers (those in their first year of life) undergo a more complicated series of moults. The juvenal plumage, the first non-downy plumage, is acquired as a complete moult in early summer before the birds leave the arctic breeding grounds. Birds in their first fall undergo their first prebasic moult, which, unlike that of the adult, involves all of the body plumage, but only some of the scapulars and tertials; the primaries, secondaries and some wing coverts are not moulted at all. The first prealternate moult, like that of the adult, takes place in the late spring and is complete in *L. scolopaceus* but quite variable in extent in *L. griseus*. First spring birds that migrate to the breeding grounds have a complete moult that results in alternate plumage indistinguishable in the field from the definitive adult. However, many *L. griseus* remain south on the wintering grounds or in favorable habitat along migration routes; these birds undergo a partial prealternate moult or none at all. There are no records of such birds summering in

Iowa, but there are old records from Wisconsin and North Dakota (Chicago Field Museum specimens) from the days when Dotwitchers and suitable habitat were more abundant. So non-breeding birds would not be unprecedented in early summer.

PLUMAGE DIFFERENCES

Definitive basic plumage: In both species of Dowitcher this plumage is gray, darker above and paler below, with blurry streaking on the upper breast and some barring on the flanks (Figure 3). The scapulars, tertials and wing coverts are gray-brown shading to lighter at the margins but without distinct feather edging as seen in other plumages. Flank barring averages heavier in *L. griseus* than in *L. scolopaceus*. The rump and under tail coverts are white with dark marks. In *L. griseus* these marks tend to be round spots or short Vs, and in *L. scolopaceus*, they tend to be short bars or wider Vs. The tail is barred black and white. In the hand, *L. scolopaceus* tends to have consistently narrow light tail bars; whereas, in *L. griseus* the light and dark bars tend to be of equal width but the widths are quite variable. All of these distinctions are minor and subject to such wide variation that they do not suffice to distinguish the two species in the field. In this plumage voice may be the only reliable field mark. However, most adult birds pass through Iowa in the spring after attaining alternate plumage and in the fall before undergoing the prebasic moult.

Definitive alternate plumage: In this plumage both species have buffy or cinnamon underparts with dark markings on the breast and sides, and dark barring on the flanks. The rump, under tail coverts and tail are as described for the basic plumage. The central pair of tail feathers may be replaced in the prealternate moult; if so this pair is barred with cinnamon instead of white. The up-



Figure 3. Basic plumage *L. scolopaceus* (top two specimens) and *L. griseus*. Note overall gray under and upperparts and lack of species differences.

perparts from crown to back, scapulars, and tertials are dark black-brown with paler feather edging. Primaries, secondaries and those wing coverts retained from the basic plumage are dark gray-brown, the coverts shading to paler gray at their edges. The sides of the face and neck are washed with buff, and there is a dark line through the eye.

Despite these overall similarities, the two species can be distinguished in alternate plumage by careful attention to the following details:

1. Color of breast and belly (Figures 4-6). The breast color of *L. scolopaceus* is darker, richer, more reddish (cinnamon) than that of *L. griseus* which is lighter and more yellow (buffy). By late summer *L. scolopaceus* may be in faded plumage, which might blur this distinction (Sutton 1967). In *L. scolopaceus* the cinnamon of the breast extends to the base of the under tail coverts, while in *L. griseus* the belly is completely or partially white. In fresh plumage the feathers of the underparts of *L. scolopaceus* have very narrow white margins, giving the underparts a frosted appearance. These narrow white margins are not found in *L. griseus* and wear off by late summer in *L. scolopaceus*.

2. Breast markings (Figures 4-6). The crucial area is the side of the breast, around the bend of the folded wing. Here the dark markings in *L. scolopaceus* tend to be wider than they are long, giving the effect of barring. The corresponding marks in *L. griseus* are rounder. *L. scolopaceus* tends to be heavily spotted across the upper breast and neck, but has no spots on the lower breast or belly. *L. griseus*

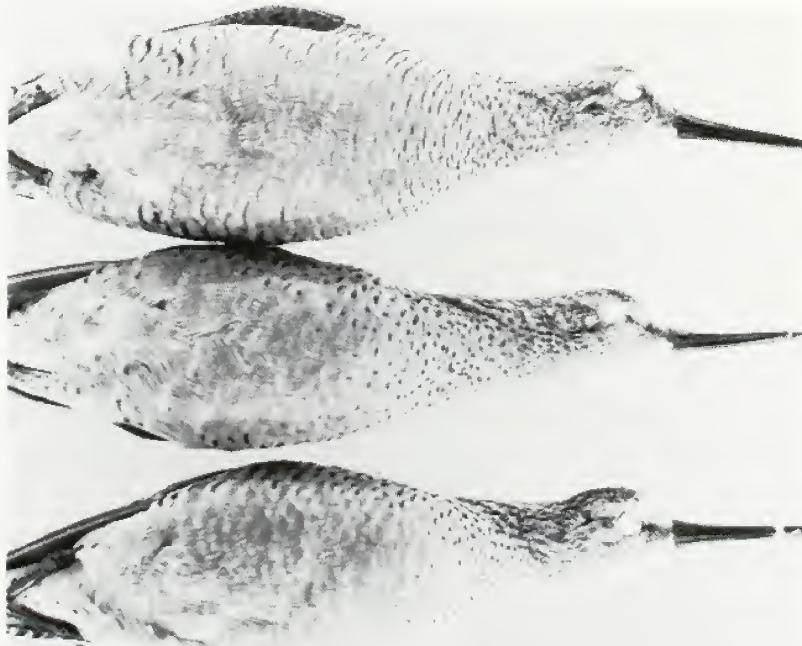


Figure 4. *L. scolopaceus*, alternate plumage. Marks on the sides of the breast very from streaks to bars to ambiguous bars-spots. Note overall darker underparts as compared to Figure 5, heavy spotting on the upper breast and neck, and lack of spots on the belly.

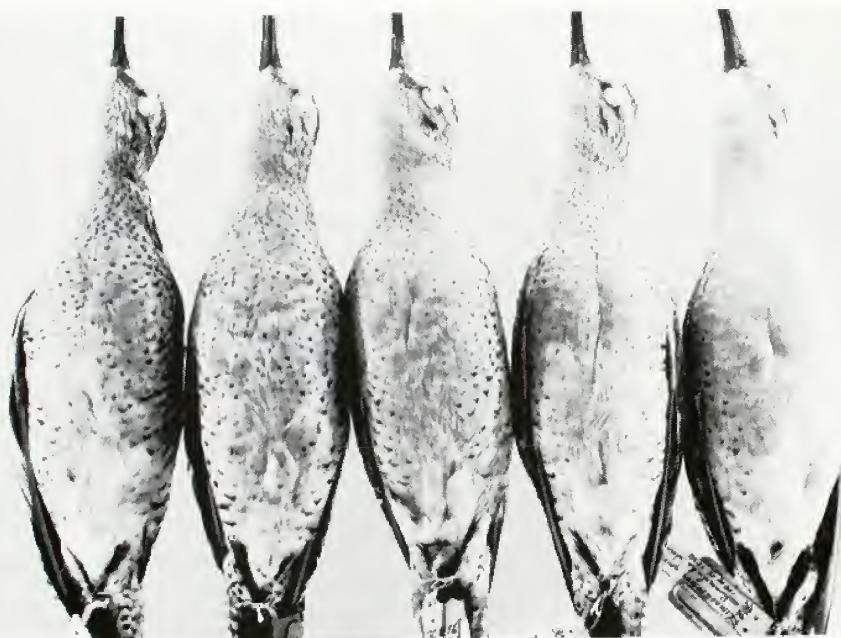


Figure 5. *L. griseus*, alternate plumage. Marks on the sides of the breast are spots, but on the right hand specimen they are sparse and on the left hand one they are ambiguous spots-bars. In spite of the variable spotting, some spots are present on the belly and neck spotting is less concentrated than in *L. scolopaceus*. Note variable white patches on belly.

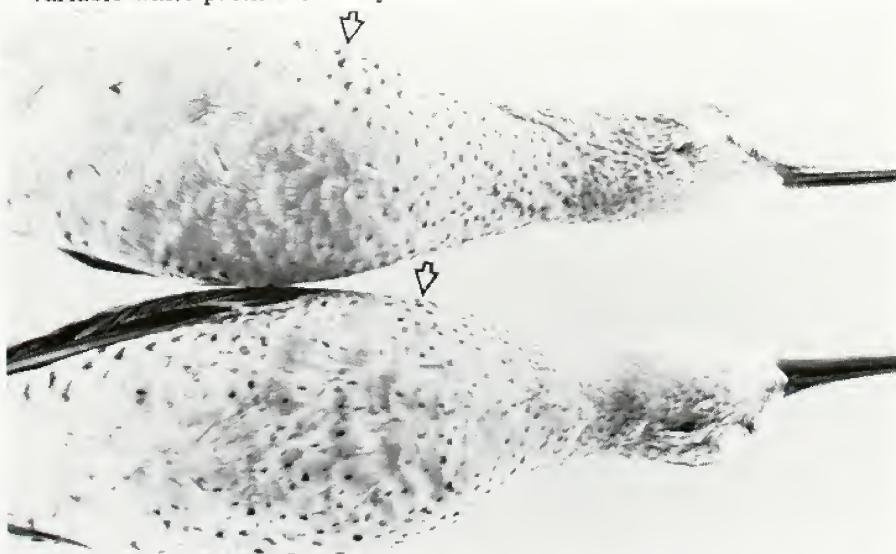


Figure 6. Average specimens of *L. scolopaceus* (top) and *L. griseus hendersoni* in alternate plumage. Notes bars vs dots on sides of breast (arrows), heavy vs light neck spotting, white edging on belly feathers of *L. scolopaceus*, and white belly patches of *L. griseus*.

is more lightly spotted across the upper breast but usually has a sprinkling of spots on the lower breast and belly. Because the dark bars of *L. scolopaceus* occur at the very tips of the feathers, by later summer they may be worn off while the centrally placed dots of *L. griseus* remain evident. There is such individual variation in the intensity of spotting. The most heavily spotted Short-bills are as densely marked across the upper breast as some Long-bills; likewise, the most lightly marked Short-bills are nearly as clean on the lower breast and belly as some Long-bills. To further complicate matters, markings on the sides of the breast are sometimes ambiguous as to whether they are dots or bars. However, the appearance of the upperparts, color of the underparts and overall distribution of spots usually allow identification in the field. Both species are barred on the flanks, the strength of the barring correlating with the intensity of the breast marking. Flank barring is a useless field mark despite tradition to the contrary.

3. Pattern of the upperparts (Figure 7). In both species the feathers of the back, scapulars, tertials and some wing coverts are dark black-brown with buffy edges, and scapulars and tertials are marked with transverse bars. As on the breast, these marks are darker, redder buff in *L. scolopaceus* and a paler, more ochre buff in *L. griseus*. In *L. scolopaceus* the feather margins and transverse bars are narrower than in *L. griseus*, so that in the latter species the upperparts have an overall paler, more variegated appearance. Pale cross-bars on the exposed tertials distinguish alternate plumage adults from juvenals (see below).



Figure 7. Dorsal view of *L. scolopaceus* (top) and *L. griseus* in alternate plumage. Scapulars (S) and tertials (T) have wider edging in *griseus*. Coverts (C) and primaries (P) are retained from the basic plumage and are gray-brown without edging. Light bars in the tail (arrow) are narrow in *L. scolopaceus* and of equal width with the dark bars in *L. griseus*.

JUVENAL PLUMAGE

Juvéenal dowitchers can be distinguished from adults in alternate plumage by their plain underparts and from adults in basic plumage by their strongly patterned upperparts. The two species in juvenal plumage can be separated by the feather pattern of the upperparts and the coloration of the breast and neck. The upperparts are dark brownish-gray with distinct pale feather edges. In *L. scolopaceus* these edges are rufous and narrow (Figure 8). In *L. griseus* they are much wider and orange-buff. The differences in feather pattern are especially conspicuous on the scapulars and tertials. In *L. griseus*, in addition to the broad buff edges, there are conspicuous irregular buffy internal markings; *L. scolopaceus* has none. In neither species do the tertials have regularly-spaced cross-bars characteristic of adults, so the tertial pattern is both species- and age-specific. On the underparts, *L. griseus* is buffy (much paler buff than alternate plumage) with fine streaking on the sides of the breast, dark speckling across the chest, and white on the belly (Figure 9). *L. scolopaceus* has the neck and breast darker and grayer with only faint dark markings, and is somewhat darker on the belly than *L. griseus*.



Figure 8. Dorsal view of juvenal *L. griseus* (top) and *L. scolopaceus*. Note wide edging and internal markings on the tertials and scapulars of *L. griseus* and limited edging of *L. scolopaceus* (arrows).

SUBSPECIES OF SHORT-BILLED DOWITCHER

The subspecies of *L. griseus* were described by Rowan (1932) and Pitelka (1950). *L. g. hendersoni* is the only one known with certainty to migrate through the midwest. However, the eastern subspecies, *L. g. griseus*, has been recovered from the Gulf coast, so that it is possible, although unlikely, in Iowa. In alternate plumage *L. g. griseus* is more heavily spotted on the breast than *hendersoni* and the white on the belly is more extensive. The pale edging of the upperparts is narrower giving an even darker and more uniform appearance than *L. scolopaceus*. The western subspecies, *L. g. caurinus*, is also more heavily spotted than *hendersoni*, though less so than *griseus*; the extent of the white on the belly is quite variable. *L. g. caurinus* would be difficult to distinguish in the field from

hendersoni. It is doubtful whether the three subspecies could be distinguished in either juvenal or basic plumage.

SUMMARY

Long-billed and Short-billed Dowitchers are separable in the field by voice at any season, but Iowa birds are often silent.

Species may be separated in the field by sight in alternate and juvenal plumages. Dowitchers in alternate plumage are recognized by their predominantly cinnamon or buffy underparts and by their retained gray-brown basic wing coverts which lack buffy edging. In this plumage, marks on the sides of the breast and color of the underparts are most useful in separating the two species in the field. Long-bills have bars on the sides of the breast and uniform deep cinnamon underparts; Short-bills have spots on the sides of the breast and lighter buffy underparts with patches of white on the belly. Other differences include more spotting on the neck and throat and lack of spotting on the belly of Long-bills and wider more buffy edging on the scapulars and tertials of Short-bills giving them a lighter appearance dorsally. Bill length and flank markings are not useful for field identification.



Figure 9. Underparts of juvenal *L. griseus* (left specimens) and *L. scolopaceus*, *L. griseus* is buffier on the breast, whiter on the belly and has fine streaks on the sides of the breast.

Dowitchers in basic and juvenal plumages are recognized by their predominantly gray underparts. Basic plumage birds with their overall gray appearance are not reliably separated by species in the field. They are distinguished from juvenals by their gray-brown scapulars, tertials and wing coverts without distinct edging. (The margins, however, have a light gray fringe.) The distinct edging on the scapulars, tertials and coverts not only distinguishes the juvenal plumage, but it also serves to separate the species. Long-bills have dark feathers with narrow rufous edges; Short-bills have wide buffy feather edges with internal markings visible on the tertials. Juvenal Long-bills have darker and

grayer underparts than Short-bills; Short-bills have a conspicuous light buffy neck and upper breast with fine streaking.

Adult birds in alternate plumage are seen in spring and early fall and those in basic plumage occur in fall and occasionally in early spring. Juvenals are seen in the late summer and fall but may have partially moulted to basic plumage by the time they reach Iowa. Long-bills migrate earlier in the spring and later in the fall. April and October birds should be Long-bills and late May and July birds should be Short-bills, but many detailed field identifications are needed to quantify the migration dates since collecting is not practical.

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The Red-Shouldered Hawk of the Yellow River

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During the fall of 1979 Iowa Department of Transportation awarded a bridge construction contract on Iowa Highway 76 at the mouth of the Yellow River. The contract specified work shutdowns and safeguards that would coincide with the mating, nesting, hatching and fledging of the Red-shouldered Hawk. This was a first. No Iowa highway construction had been stopped for a bird until this project. The construction of the bridge and associated roadwork began in December 1979, and will take almost a year for completion. The Des Moines Register carried a front page article on the subject on March 14, 1980.

A pair of Red-shouldered Hawks had traditionally nested near the old highway bridge and had been sighted in the moist woodlands for quite a number of years indicating, as some experts believe, that this species mates for life. The probability that this nest was still active in 1979 was confirmed by James Bednarz of the Iowa Cooperative Wildlife Research Unit who had located five active Red-shouldered Hawk nests in the state of Iowa between 1977 and 1979. On foot and by canoe Bednarz searched out practically all Red-shouldered Hawk habitat left in Iowa. All of the Red-shouldered Hawk nests were found in extreme northeastern Iowa; two of the nests were located within the boundaries of Effigy Mounds National Monument.

Buteo lineatus nests at the confluence of tributary streams and the Mississippi River. It has been the loss of this type of river bottom, timbered habitat, coupled

with pesticide contamination, that has caused the sharp population decline of this particular bird of prey. They characteristically perch on low shrubs or tree branches on the floodplain or fly low through the wetlands in search of snakes, insects, crayfish, frogs and rodents. Their flying skills through the wooded canopy rival that of the Wood Duck and the Pileated Woodpecker. This hawk is on the Iowa Endangered Species List as well as being threatened or endangered in Minnesota, Illinois, Wisconsin and Michigan. The Red-shouldered Hawk is a rather small *Buteo* and, being quite elusive, is rarely seen. But its field marks are unmistakable: heavy black and narrow white bands across both top and bottom of the tail, translucent wing "windows", reddish shouldered, and an adult wingspan of about forty inches. The Red-shouldered Hawk usually returns to Iowa about the first week of March.

Our mission here at Effigy Mounds National Monument, where I work as a Park Technician, is not only to preserve and interpret the prehistoric earthworks found here, but also the environment in which they were built. The Red-shouldered Hawk is an integral member of the ecosystem found along this beautiful river valley.

I was assigned the observation and monitoring of the nest to determine what impact the construction activity might have on this shy, rare raptor.

During the last week of March 1980 a Red-shouldered Hawk was first sighted here in the Nazeka Valley at the mouth of the Yellow River by three National Park Service employees. One month later on the 28th of April I located the large, coarse stick nest, very high in the main crotch of a soft maple in the extremely dense floodplain. A secondary feather was recovered from the base of the host tree. The feather was mailed to Dr. James Dinsmore of the Animal Ecology Department of the Iowa State University at Ames for positive identification. Dr. Dinsmore confirmed that it was a Red-shouldered Hawk feather.

When I first located the nest towards the last part of April, incubation was well under way. Construction noise had been halted earlier in the spring so that it would not interfere with mating and nesting activity of the hawks. During the first week of May I constructed a blind at ground level about 150 feet from the nest tree. The blind was built out of bent willow saplings and several plys of burlap. At that time I began routine observations and photography. Sometime I would not enter the area for a week at a time, letting the hawks have their solitude.

On May 15 the hawks began to act differently. One of the adults was seen bringing a snake to the nest in its talons. Behavior change and newly observed hyper-activity was discussed with State Ecologist Dean Roosa who confirmed such activity as being associated with hatching. Brennan Construction Company was ordered at this time by the Department of Transportation to stop all pile-driving, explosions and cement breaking for the next seven days. The reason for this moratorium on loud percussions was because for the first week of life the young hawks don't have their protective down feathers, and they cannot thermo-regulate body temperature on their own. It was thought that if the nearby construction activity frightened the adults off the nest for too long a period of time, the young would perish from the cool damp exposure.

On the 26th of May two young hawks could be seen for the first time, looking over the rim of the nest (see photo). I photographed the adults feeding the young. The adults made three trips to the nest in a forty-five minute period. During the first part of June the young hawks' growth was fantastic. One of the two was much larger than the other, indicating that it had hatched possibly as much as a week earlier than the other.

On the 17th day of June I returned to the nest site. The water level at the base of



Nest and young
Photo by author, National Park Service

the host tree was about eighteen inches deep, caused by the heavy rains the watershed had received recently. One of the adult hawks was making a very loud squealing noise on a nearby branch. The nest appeared to be about one-third its original size. The adult flew away as I approached the base of the tree. There I discovered the remains of a bird: talons, quills, etc., lying in the murky water. Because all predators have a hard time feeding during times of rain, it was conjectured that the high water, which had backed up into the low-lying floodplain, had made hunting food very difficult for the adults and that the young hawks' diets had lessened. As a result, a common activity among young birds of prey, cannibalism occurred. The larger chick ate its sibling. Thanks to this back-up system in nature one of the hawklets fledged and made it out of the nest. It is believed the partial destruction of the nest was caused by a heavy windstorm after the earlier large amounts of rain. For the next six weeks park visitors and employees were treated to loud squawking sounds from the new member of the avian world and its parents, the adult Red-shouldered Hawks. For the first six weeks out of the nest the young hawk cannot hunt well enough on its own to sustain life, so it must keep in constant communication with the adults.

Even while I write these words, the three Red-shouldered Hawks fly in this valley and the bridge builders work down along the river.

It seems to me that the hawks have tolerated the extremely loud construction noises quite well. At different times early in the construction period, while the hawks were incubating, there were up to a dozen large machines operating, i.e. scrapers, tractors, dump trucks, cranes wielding pile-drivers and a concrete-busting ball. I remember times sitting in the blind when the mud below me would simply quake from the percussion of the monotonous piledriving, which lasted for weeks. My feelings are that we will not really know the impact on this nesting area until next spring when we will see if the Red-shouldered Hawks return to this valley to build a new nest.

I.O.U. Fall Meeting, 1980

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The fall meeting of the Iowa Ornithologists' Union, hosted by the Des Moines Audubon Society, was held at Springbrook State Park Conservation Education Center on September 20 and 21, 1980. It had been ten years since the group held a fall meeting at Springbrook. During the intervening years the facility has been considerably upgraded.

Vice president Ross Silcock welcomed the group to the meeting following an excellent dinner at the facility dining room. He introduced Dr. James Dinsmore of Iowa State University who presented a short slide program on declining species in Iowa. He also reminded the group to send nest record cards to him.

Dr. Tom Kent of Iowa City explained the make up and work being done by the check-list committee. Dr. Kent is the check-list committee secretary.

The slide fest was held next. Many members presented slides of interesting birds and birding places taken in the year since the last slide fest.

The evening's program was presented by Sylvan Runkel, co-author of the recently published *Wildflowers of Iowa Woodlands*. Mr. Runkel's program was a somewhat magical walk through the woods. The group was exposed to many beautiful shots of woodland flowers plus fleeting glimpses of numerous birds which the group was asked to identify. The program was informative and thoroughly enjoyable.

Sunday morning the group met for breakfast at the dining room. The morning dawned bright and clear but did not indicate the fascinating birding ahead. When the group reassembled at the dining room for lunch conversations indicated an excellent morning's birding. Peter Petersen conducted the compilations of the morning's birding which totaled an exceptional 134 species. President Kurtz thanked the Des Moines Audubon Society for hosting the successful meeting. He also thanked the Springbrook cooks for the very good meals. The Spring meeting will be held at Iowa City on May 2nd and 3rd, 1981. The meeting was adjourned.

Birds seen on the Field Trip, September 21, 1980

Pied-billed Grebe, American White Pelican, Double-crested Cormorant, Great Blue Heron, Green Heron, Great Egret, Black-crowned Night Heron, American Bittern, Snow Goose, Canada Goose, Wood Duck, American Wigeon, Gadwall, Green-winged Teal, Mallard, Common Pintail, Blue-winged Teal, Northern Shoveler, Lesser Scaup, Ruddy Duck, Turkey Vulture, Osprey, Northern Harrier, Sharp-shinned Hawk, Red-tailed Hawk, Broad-winged Hawk, Swainson's Hawk, Peregrine Falcon (TK,TS), Merlin, American Kestrel, Common Bobwhite, Ring-necked Pheasant, Sora, American Coot, Semipalmated Plover, Killdeer, Greater Yellowlegs, Lesser Yellowlegs, Solitary Sandpiper, Spotted Sandpiper, Common Snipe, Short-billed Dowitcher, Long-billed Dowitcher, Semipalmated Sandpiper, Western Sandpiper (RS), Least Sandpiper, Pectoral Sandpiper, Ring-billed Gull, Franklin's Gull, Caspian Tern, Rock Dove, Mourning Dove, Yellow-billed Cuckoo, Common Screech Owl, Great Horned Owl, Barred Owl, Whip-poor-will, Common Nighthawk, Chimney Swift, Belted Kingfisher, Common Flicker, Red-bellied Woodpecker, Red-headed Woodpecker, Hairy Woodpecker, Downy Woodpecker, Eastern Kingbird, Great Crested Flycatcher, Eastern Phoebe, Least Flycatcher, Eastern Pewee, Horned Lark, Tree Swallow, Bank Swallow, Rough-winged Swallow, Barn Swallow, Cliff Swallow, Purple Martin, Blue Jay, American Crow, Black-capped Chickadee, White-breasted Nuthatch, Red-breasted Nuthatch,

Brown Creeper, House Wren, Marsh Wren, Sedge Wren, Gray Catbird, Brown Thrasher, American Robin, Wood Thrush, Hermit Thrush, Eastern Bluebird, Golden-crowned Kinglet, Cedar Waxwing, European Starling, Solitary Vireo, Red-eyed Vireo, Philadelphia Vireo, Warbling Vireo, Tennessee Warbler, Orange-crowned Warbler, Nashville Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Blackburnian Warbler, Chestnut-sided Warbler, Bay-breasted Warbler, Common Yellowthroat, Wilson's Warbler, House Sparrow, Western Meadowlark, Red-winged Blackbird, Common Grackle, Brown-headed Cowbird, Summer Tanager, Northern Cardinal, Purple Finch, American Goldfinch, Rufous-sided Towhee, Savannah Sparrow, Grasshopper Sparrow, LeConte's Sparrow, Vesper Sparrow, Northern Junco, Chipping Sparrow, Clay-colored Sparrow, Field Sparrow, White-throated Sparrow, Lincoln's Sparrow, Swamp Sparrow and Song Sparrow. - 134 species.

Registered Attendance -- 105

Adel: Janet F. Eppard.
Ames: Nancy Brown, Jim Dinsmore, A. J. Englehorn, Dean Roosa, Ron Sarson.
Aurelia: Arlene Sweet.
Booneville: Eugene and Eloise Armstrong.
Carroll: Lucille Fast, Linda Kuhlman.
Cedar Rapids: Norman and Floy Erickson.
Cherokee: Dick and Judy Bierman.
Davenport: Peter and Mary Lou Petersen.
Des Moines: Dwight and Margret Brooke, George and Eleanor Buck, Ruth E. Buckles, Tom and Nancy Davidson, Esther L. Dungan, Gladys Haskell, Mr. Mrs. Frank Hutton, Jack and Bette Jones, Barbara J. Miller, Bryce and Jeanne Miller, Dick and Pauly Mooney, LeRoy and Louise Pratt, Timothy and Rosemary Rahm, Mark Rouw, Sylvan Runkel, Merle and Bess VanCleve, Wayne Watson, Dorothy Weller.
Eldora: Nancy Slife.
Elkhart: Dean and Diane Mosman.
Estherville: Dennis and Belva Henrickson.
Fort Dodge: Mary Sand.
Indianola: Roy and Jane Goodwin, Jim Sinclair.
Iowa City: Everette and Margaret Alton, Margrieta Delle, Dr. Thomas H. Kent, Michael and Carol Newlon, Tom Shires.
Jamaica: Gene and Marilyn Burns.
Jamison: Rick Trieff.
Jefferson: Andriyas and Blanche Prasad.
Knoxville: Marjory K. Fee.
Lake Mills: Sibyl Sands.
Lamoni: Wallace and Genevieve DeLong.
Malvern: W. Ross Silcock.
Marshalltown: Laura Glasgow, Marlyn Huff.
Montezuma: Garwin Koenig.
Oskaloosa: Mr. and Mrs. Keith Layton.
Pleasantville: Robert E. Thornburg.
Pocahontas: Ray and Madeline Cummins, Wallace and Betty Jardine.
Saint Anthony: Carl P. Kurtz.
Shenandoah: Mrs. Donald E. Jennings, Marie Spears, Mary Beth Vaughn, Betty Walters.
Spencer: Burdell and Irene Triplett.
Swalesdale: Mr. and Mrs. Parker Koppen.

Waterloo: Naomi Bandfiled, Antoinette Camarata, Francis L. Moore, Robert and Betsy Myers, Tom Stone, Sr. and Jr.

Webster City: Ronald W. Muilenburg.

Lee Summit, Mo.: Dean and Madeline Ballantyne.

Columbia, Mo.: William M. Clark.

Omaha, Neb.: Don and Tanya Bray, Jim and Sandy Kovanda.

Report of the Records Committee

On the recommendation of the Checklist Committee, President Kurtz has reconstituted an enlarged committee consisting of four regular members appointed for four year staggered terms, a secretary serving a one year renewable term and two alternate members appointed yearly by the committee. The committee was renamed the Records Committee to correspond with similar committees in other states. The committee will be responsible for the Official List of Iowa Birds, the Field Checklist of regular species, review of rare and unusual records, advising the Field Reports and Christmas Count Editors on policy, and promoting accurate and detailed reporting of Iowa birds.

The members and their terms of office are James Dinsmore (1984), Ross Silcock (1983), Peter Petersen (1982), Michael Newlon (1981), Thomas Kent (secretary) and Darwin Koenig and Thoms Shires (alternates). At its first meeting on 20 September 1980, the Committee established bylaws (to be published later), reviewed documentations of casual and accidental species reported in 1980, established procedures for review including a list of species that should always be documented for the Committee or Field Reports Editor, set up guidelines for classification of sight records, and made plans to review the old records for all species for which tangible evidence (specimen, photograph or recording) of occurrence in Iowa is lacking.

Each committee member independently evaluated species that should be documented, the results were compiled and consensus was reached during the meeting for the following.

Species on the current Field Checklist that should always be documented include: Snowy Egret, Mute Swan, Greater Scaup, N. Goshawk, Golden Eagle, Peregrine Falcon, Merlin, King Rail, Marbled Godwit, Whimbrel, Bewick's Wren, Henslow's Sparrow, and Sharp-tailed Sparrow.

Species not on the Field Checklist should always be documented with the following exceptions: Say's Phoebe in northwest Iowa, White-winged Scoter, Sandhill Crane and Yellow-throated Warbler.

In addition, details of observations used for identification (but not full documentation) should be provided for the following species: Short and Long-billed Dowitchers, Yellow-bellied, Willow and Alder Flycatchers, Bohemian Waxwing, Northern Shrike and Brewer's Blackbird.

Documentation should also be provided for birds seen at unusual times or places, particularly if they present identification problems.

Thomas H. Kent, Secretary

Field Reports

SUMMER 1980

Thomas H. Kent, Field Reports Editor

211 Richards Street Iowa City, Ia. 52240

WEATHER AND HABITAT CONDITIONS

June and July were unusually warm and dry months. Nesting of some marsh birds may have been affected by the dry condition.

GENERAL TRENDS

No unusual trends were noted. A few shore birds returned at record early dates (Semipalmated Plover, Greater Yellowlegs, Com. Snipe). Unusual dates were noted for several passerines (Swainson's Thrush, Solitary Vireo, Tennessee Warbler, N. Junco). E. Bluebird reports were encouraging.

UNUSUAL SIGHTINGS

Summer reports confirmed spring reports of territorial Yellow-throated Warblers at Lacey-Keosauqua S.P. and Wildcat Den S.P. There were reports of nesting Burrowing Owls and Say's Phoebe. Lark Buntings were seen in Fremont Co.

LOONS THROUGH DUCKS

Common Loon: 2 were on Clear L. in Jun and Jul (MNi fide JD).

Eared Grebe: 2 were still at Willow S. on 3 Jun extending the spring record (RMy).

Western Grebe: 1 was at Trumbull L., Clay Co. (+JD).

Pied-billed Grebe: Nesting was noted at Willow S. and s. of Council Bluffs in Jun (BWi). One was at Davenport on 29 Jun (PP,MLP).

American White Pelican: Non-breeding birds were numerous at Forney L. again this year: 50 on 11 Jul (RMy,RSi) and 128 on 19 Jul (BBWi).

Double-crested Cormorant: Up to 12 summered at Forney L. (m.ob.).

Great Blue Heron: 16 were at Forney L. on 11 Jul (RSi) and 30 at Red Rock Res. on 25 July (GB) but no heronries were found.

Little Blue Heron: 6 were at Forney L. on 19 Jul (TSJr,TSt).

Cattle Egret: The only one was at Dan Green S., Clay Co. on 5 June (JD).

Black-crowned Night Heron: 7 were at LeClaire, Scott Co. on 4 June (MLP); 20 at Hottes L., Dickinson Co. with 3 nests on 6 Jun (JD) and many at Lost I. M., Palo Alto Co. on 11, 12 Jul.

Yellow-crowned Night Heron: 3 imm. were at Forney L. and 1 at Riverton W. A. on 19-20 Jul (+TSJr., +TSt).

Least Bittern: 3 at Forney L. on 6 Jun (TB,SK,BP), 1-2 at Willow S. on 16, 21, 26, Jun (RMy) and 1 at Sweet M. on 30 Jun (RMy,TSJr).

American Bittern: 2 at Dan Green S. on 5 Jun and 1 at Big Wall L., Wright Co. on 28 Jun (JD).

Greater White-fronted Goose: 1 lingered at Willow S. on 2 Jun (BWi) and 2 at Forney L. on 21 Jun (FM).

Snow Goose: Up to 6 remained at Forney L. compared to 30 last year (m.ob.).

Canada Goose: Numerous breeders were at Dewey's Pature, Clay Co. (JD); 6 were at Montezuma, Poweshiek Co. on 26 July (DK).

Ducks: Ducks were noted as follows: Am Wigeon at Willow S. (BWi), Gadwall at Willow S. (BWi), Green-winged Teal at Forney L. on 6 Jun (TB,SK,BP) and Coralville Res. on 22 Jul (TK), Black Duck at Dan Green S. on 5 Jun (JD), Com. Pintail at Forney L. on 6 Jun (TB,SK,BP), N. Shoveler at Willow S. (BWi), Canvasback at Willow S. and Forney L. (BWi,TB,SK,BP), Lesser Scaup at Trumbull L. on 5 Jun (JD), Hooded Merganser in Plymouth Co. on 2 Jun (DBi), Red-breasted Merganser at Forney L. on 6 Jun (TB,SK,BP) and Ruddy Duck at Willow S. and Forney L. (BWi,TB,SK,BP)

Redhead: 30 were at Mud L., Palo Alto Co. on 5 Jun and a brood was at Lost Island S., Palo Alto Co. on 12 Jul (JD).

Hooded Merganser: 3 ducklings were seen at Big M. on 1 Jul (DD).

VULTURES THROUGH TURKEY

Turkey Vulture: At Elk Rock S.P. a nest with 1 egg was in a chicken house on 27 Apr and a nest with a one-month-old bird was in a cave on 29 Jul (GB).

Cooper's Hawk: Singles were reported from L. Wapello, Davis Co. on 9 Jun (JD) and Allamakee Co. on 14 Jun (DK).

Red-tailed Hawk: Reports from Louisa, Johnson and Linn Counties (MN,TSh).

Red-shouldered Hawk: Nesting near Effigy Mounds N.M. was facilitated by an altered schedule for construction of a nearby bridge with one bird apparently fledged (Tim Mason fide TM,JD). Other sightings were in Clayton Co. on 31 May (LS fide JD) and Lacey-Keosauqua S.P. (FM,RMy).

Broad-winged Hawk: An adult and immature were at Ledges S.P. on 20 Jun (JR fide JD), 1 was at Manti Woods, Fremont Co. on 21 Jun (FM) and 1 at White Pine Hollow on 10 Jun (TSJr,TSt).

American Kestrel: Reports were from Poweshiek, Fremont, Johnson, Fayette, Clinton, Dallas and Davis Counties (m.ob.)

CRANES THROUGH TERNS

King Rail: 1 was seen at Cone M. on 22 Jul (+CN).

Sora: 2 were at Sweet M. on 28 Jun and 19 Jul (FM,RMy) and 1 at n.e. Mills Co. on 12 Jul (BWi).

Common Gallinule: 1 was at Willow S. on 9 Jul (BWi) and 1 at Union S. N. W. R. on 6 Jul (TSJr,TSt).

American Coot: Nesting was common in the Iowa Great Lakes region (JD) and a nest was found in Boone Co. (LC fide JD), but 100 at Forney L. failed to nest because of low water (RSi).

American Avocet: 1 at Credit I. on 17 Jul (MLP,CS) was the second earliest date.

Semipalmated Plover: 2 at Coralville Res. on 12 Jul (MN) and 4 at Cone M. on 18 Jul (RDe) exceeding the previous early date of 27 Jul.

Upland Sandpiper: Reports were from Cherokee, Davis, Iowa and Johnson Counties (m.ob.) as well as many in s.w. Iowa (FM).

Greater Yellowlegs: 1 at Coralville Res. on 13 Jul (TK) exceeded the previous early date of 23 Jul; 8 were there on 26 Jul (MN).

Lesser Yellowlegs: The first were noted on 6 Jul at Coralville Res. (MN) and 8 Jul in Mills Co. (BWi); the largest concentration was 30 at Cone M. on 13 Jul (RDe).

Solitary Sandpiper: 1 on 29 Jun at Coralville Res (TK) tied the third earliest date; peak was 71 at Cone M. on 13 July (RDe).

Wilson's Phalarope: 1 at Silver L., Dickinson Co. in late Jun and early Jul may have been breeding (EM,RJ fide JD). The only migrant was at Cone M. on 23 Jul (TK).

American Woodcock: One lit within two feet of Fancis Moore at Wabonsie on 21 Jun and one was killed by hail at the Wilson farm in Mills Co.

Common Snipe: 1-2 at Cone M. on 13, 18, 23 Jul (RDe,TK) all exceeded the previous early date of 3 Aug.

Short-billed Dowitcher: 8 in breeding plumage were studied in detail at Coralville Res. on 12 Jul (MN) and were present on 13, 19, 22 Jul (MN,TK).

Long-billed Dowitcher: One was identified by call s. of Council Bluffs on 24 Jul (TB,SK,BP). A breeding plumage bird was at Coralville Res. on 3 Aug (MN).

Sanderling: One was seen near Waterloo, on 26 Jul (+FM,RMy).

Semipalmated Sandpiper: 1 at Coralville Res. on 12 Jul (MN) was one day later than the record early date; 28 were there on 26 Jul.

Least Sandpiper: 70 at Coralville Res. on 12 July (MN) were the earliest and peak numbers.

White-rumped Sandpiper: 7 lingered at Forney L. until 6 Jun (TB,SK,BP).

Pectoral Sandpiper: Birds at Willow S. on 8 Jul (BWi) tied the second earliest date; 205 were peak numbers at Cone M. on 18 Jul (RDe).

Stilt Sandpiper: 1 at Cone M. on 13 July (RDe); peak of 9 at Coralville Res on 19 July (MN).

Buff-breasted Sandpiper: 1 was at Cone M. on 22 July (+CN).

Ring-billed Gull: 1 at Smith's S., Clay Co. on 5 Jun and 3 at Little Wall L. on 28 Jun (JD).

Franklin's Gull: 20 at Forney L. on 6 Jun (TB,SK,BP), 1 immature at Willow S. on 2 Jul and 1 adult on 5 Jul (BWi), 1 s. of Council Bluffs on 3 July (BWi) and 2 at Cherokee on 29 Jun (DBi).

Forster's Tern: 1 at Forney L. on 6 Jun (TB,SK,BP), several (probably nesting) in Clay and Palo Alto Cos. on 5-6 Jun (JD), 1 at Sweet M. on 19 Jul (FM) and 8 at Coralville Res. on 26 Jul (MN).

Common Tern: 1 at Sweet M. on 19 Jul identified by wing pattern and call compared to Forster's seen and heard at the same location (FM,RMy).

Little Tern: 1 at Forney L. on 6 Jun (TB,BP,SK).

Caspian Tern: 1 near Montezuma on 17 Jun (DK), an unusual date.

Black Tern: Up to 30 were at Willow S. (BWi).

PIGEONS THROUGH WOODPECKERS

Barn Owl: Seen twice in s. Mills Co. (RSi).

Burrowing Owl: Two nests were reported: s. Adair Co. on 17 Jun (GC fide DN) and Kossuth Co. in May, Jun and Jul (+CR fide JD).

Chuck-will's-widow: Up to 8 were at Waubonsie S.P. on 11, 21 July (RSi,RMy,FM) and 1 was heard near Montezuma, Poweshiek Co. (+DK). More extensive surveys are needed to determine the occurrence of this species in Iowa.

Common Nighthawk: Several observers noted decreased numbers, but quantitative surveys are needed to monitor changes.

Ruby-throated Hummingbird: A few were seen: 7 at Red Rock Res. (GB), 1 all summer at Elkhart (DMos) and 1 on 9 Jun at Hamburg (IG).

Belted Kingfisher: Several were seen and thought to represent increases (FM,B-Wi,RSi). One nested at Hamburg (IG).

Yellow-bellied Sapsucker: 1 at Klondike on 1 June (DK).

FLYCATCHERS THROUGH STARLING

Eastern Kingbird: The low spring numbers at Cherokee became normal by summer (DBi).

Western Kingbird: Usual reports from s.w. Iowa; a nest in Woodbury Co. (CW).

Eastern Phoebe: Reports from Lacey-Keosauqua S.P. (TK,CB), s. Iowa (FM), Coralville Res. (TSh), Palisades Kepler S.P. (TSh) and a nest near Pleasantville (GB).

Say's Phoebe: A nest with 3-4 young was found in n. w. Iowa on 4 Jul (TSJr,T-St,EB).

Willow Flycatcher: Jun and Jul reports from Fremont, Mills, Story, Clay, Johnson and Bremer Counties.

Alder Flycatcher: 1 was reported from Gitchie-Manitou S.P. on 5 Jun (RSi).

Least Flycatcher: 1 calling at Smith's S., Clay Co. on 12 Jul (JD).

Olive-sided Flycatcher: 1 at Oak Grove P., Sioux Co. on 5 Jun (RSi).

Cliff Swallow: In an extensive study, Rick Hollis found 1,030 nests on the bridges of Iowa City with an occupancy rate of 71-88 percent.

Purple Martin: There were 8 colonies with fewer birds than last year at Elkhart (DMos).

Tufted Titmouse: 1 was at Gitchie-Manitou S.P., Lyon Co. (RSi), a northerly location.

Northern Mockingbird: Reports were from Lyon Co. on 4 Jun (RSi), Davis Co. on 14-15 Jun (FM), and Iowa Co. on 28-29 Jun (two locations TSh,TK).

Swainson's Thrush: 1 at Davenport on 27 Jul was a month earlier than previously recorded (MLP).

Veery: Summer reports similar to last year: 31 May and 15 Jun Hickory Hill P., Iowa City (RDe,TSh), 28 Jun at Brushy Creek Canyon, Fayette Co. (FM,RMy), 29 June near Montezuma (DK), 1 Jul at Palisades Kepler S.P. (TSh), 2 at Yellow River F. on 19 Jul (DK) and many at White Pine Hollow on 10 Jun (TSJr,TSt,RH).

Eastern Bluebird: Apparently a good year for Bluebirds: 23 nests at Cherokee (more than ever DBi), twice as many as last year at Elkhart (DMos), readily found in s. Iowa (FM), 16 in Poweshiek Co. (DK), 15 in Lee Co. in a few hours (TK,CB), 5 pair at Red Rock Res. (GB), and 4 pair in Mills Co. (BWi).

Blue-gray Gnatcatcher: Common at L. Wapello, Davis Co. (JD).

Loggerhead Shrike: This species appears to be well established in s. Iowa (RSi, RMy, FM) with scattered reports from central counties (Marion, Mahaska, Poweshiek, Johnson).

VIREOS THROUGH WARBLERS

White-eyed Vireo: Resident in Iowa City (TSh) and near Montezuma (DK).

Bell's Vireo: Numerous reports from widely scattered areas.

Solitary Vireo: 1 at Hamburg on 16 Jul (IG) exceeds the previous early report by at least a month.

Prothonotary Warbler: Reports are from Riverton W.A. and Dudgeon P. (RMy,FM).

Worm-eating Warbler: Heard at Wildcat Den S.P. on 14 Jun (TSh).

Blue-winged Warbler: Early Jun sightings were from Macbride Field Campus and Coo Falls in Johnson (RDe) and Lacey-Keosauqua S.P. (RM).

Tennessee Warbler: 1 at Sweet M. on 28 Jun (FM,RMy) is an odd date.

Northern Parula Warbler: Well established at Lacey-Keosauqua S.P. in s.e. Iowa with 3-6 heard from 5-14 Jun (RMy,FM,TK,CB) and 1 in n.w. Iowa at Kroger Tract in Lyon Co. (RSi).

Yellow Warbler: Several nests were found at Smith's S., Clay Co. on 5-6 Jun (JD). A pair was at Pleasantville (GB).

Yellow-throated Warbler: Reports continue at Wildcat Den S.P. (RDe,TSh) and Lacey-Keosauqua S.P. (RMy,FM).

Ovenbird: 2 were found in n.w. Iowa at Kroger Tract, Lyon Co. (RSi).

Louisiana Waterthrush: Reported from usual locations at Wildcat Den S.P. (RDe) and Waubonsie S.P. (FM).

Kentucky Warbler: Reported from usual locations at Wildcat Den S.P. (RDe), Lacey-Keosauqua S.P. (FM), Wabonsie S.P. (RMy) and from Coralville Res. (TSh).

Yellow-breasted Chat: 1-2 were reported from Willow S. (RMy), Lee Co. (TK,CB), Marion Co. (GB), Mahaska Co. (DK) and Sweet M. (FM,RMy,TSJr). The Willow S. bird was the first in Mills Co. since 1961 according to Silcock.

Canada Warbler: A female at Waubonsie S.P. on 21 Jun (FM) is a unique date.

American Redstart: Good numbers were reported from Mills Co. (BWi), n. Linn Co. (TSh) and Palisades-Kepler S.P. (TSh).

MEADOWLARKS THROUGH BUNTINGS

Yellow-headed Blackbird: Greatly decreased numbers were reported at usual nesting sites (FM) with few at Forney L. where hundreds usually nest (RSi).

Some were seen in upland areas of Mills Co. away from cattail marshes (RSi).

Red-winged Blackbird: A flock of 5,000 were at Cone M. on 25 Jul (TK,TSh).

Orchard Oriole: Reports were from Fremont, Woodbury, Davis, Poweshiek, Polk and Scott Cos.

Scarlet Tanager: 1 was found in n.w. Iowa in Lyon Co. on 5 Jun (RSi).

Summer Tanager: 1 at Storm L. on 15 Jun was unusual (EGC).

Blue Grosbeak: Usual reports from Mills and Fremont Cos.

Lark Bunting: 1 was reported near Thurman, Fremont Co. on 4 Jul (TSJr) and 4 from the same area on 29 Jul (+BWa,BC,MV).

Savannah Sparrow: 1 was in Sioux Co. on 3 Jun (RSi).

Vesper Sparrow: Regular in s. Iowa (FM,RSi).

Lark Sparrow: 6 along Des Moines R in Lee Co. (TK,CB), 1-2 in Davis Co. (FM), Pleasantville (GB), and Dudgeon P. (FM).

Northern Junco: A late bird was singing near Cherokee on 7 Jun (DBi).

Swamp Sparrow: This species was very common in the Iowa Great Lakes region (JD) and at Sweet M, Dudgeon P. and Big M. (FM).

+ -- documented

CONTRIBUTORS

Dick Bierman, Cherokee; Gladys Black, Pleasantville; Tanya Bray, Omaha, Neb.; Edwin G. Crocker, Storm Lake; Rich DeCoster, Iowa City; James Dinsmore, Ames; Ione Getscher, Hamburg; Rick Hollis, Iowa City; Thomas Kent, Iowa City; Darwin Koenig, Montezuma; Tomma Maas, Ames; Francis I. Moore, Waterloo; Dean Mosman, Elkhart; Robert K. Myers, Waterloo; David Newhouse, Boone; Carol Newlon, Iowa City; Michael Newlon, Iowa City; Peter Petersen, Davenport; Ruth Phipps, Shenandoah; Thomas Shires, Iowa City; Ross Silcock, Malvern; Tom Stone Jr., Waterloo; Betty Walters, Shenandoah; Clarice Watson, Eugene, Ore.; Barbara Wilson, Hastings.

OTHER OBSERVERS

Paul Bartelt (DN); Carl Bendorf (TK); Eldon Bryant (TSJr); Goerge Cox (DN); Barbara Cunningham (BWa); Lloyd Crim (JD); Dean Dalziel (DN); Russell Hays (TSJr); Randy Johnson (JD); Wilma Kaldenberg (GB); Sandra Kovanda (TB); Tim Mason (JD); Ed Miller (JD); Myra Niemeier (JD); Babs Padelford (TB); Loren Padelford (TB); Mary Lou Petersen (PP); Craig Roberg (JD); John Robinson (JD); Clark Scott (PP); Larry Stone (JD); Tom Stone (YSJr); Mary Beth Vaughn (BWa).

COMMENTS

Fall field reports will not be published until March 1981 because the December issue will be the index. Nevertheless, reports need to be in on time to the regional editor of *American Birds*. Reporting dates are as follows: fall (Aug., Sep., Oct., Nov.) -- Dec. 1; winter (Dec., Jan., Feb.) -- Mar. 1; Spring (Mar., Apr., May) -- Jun 1; and summer (Jun, Jul) -- Aug. 1. Reports not received by the seventh will not be included except for very unusual findings which will be included in the subsequent season. Late reports will, however, be recorded for future reference. I would like to encourage documentation of birds seen on unusual dates.

Book Reviews

A Field Guide to the Birds East of the Rockies -- Roger Tory Peterson -- Houghton Mifflin Co., 2 Park St., Boston, Mass -- 384 p., 121 color and 15 black and white plates, 391 maps -- 1980 -- \$15.00, \$9.95 paperbound.

At long last the completely revised 4th edition of Peterson's Eastern guide is in print. The improvements are many. Fewer birds appear on each plate so they are larger. Text is opposite the plates. Ranges are mapped, not with text and plates, but are also included in the text. Current (A.B.A.) names are used. Accidentals are included with plates (heads in some cases). Many introduced species are illustrated. Negative features are few but do exist, in my view. The area covered is still east of the 100th meridian, so middlewestern birders need two books. Some

difficult species are not described in sufficient detail, for example the dowitchers (see lead article in this I.B.L.) and Thayer's Gull. The range maps are not all correct for Iowa, see King Rail, Western Kingbird, and Black-and-white Warbler.

In summary it is a big improvement and really a must for birders. If one is just going to carry one guide, I would still favor the Golden guide. It's revision, due next year, should be even better. This new Peterson guide will make a great Christmas present for birders on your list, if they haven't already purchased their own copy! ed.

North American Birds of Prey -- William Mansell and Gary Low -- William Morrow & Co., N.Y. -- 176 p., 27 color plates, 58 line drawings -- 1980 -- \$29.95.

This large format book covers 27 species of hawks and owls, all of fairly wide North American distribution. For each species several pages of text describe the life history of the bird, flight drawings illustrate various plumages (for the hawks), and a color half or full page action painting complete the coverage. The book will probably be purchased chiefly for the plates. Done in somber tones, many plates capture the species nicely while others fail. The best, to my eye, are the Red-tailed and Broad-winged Hawks, Hawk and Boreal Owls. It would also make a good Christmas present for a person fond of raptors. ed.

On the Road with John James Audubon -- Mary Durant and Michael Harwood -- Dodd Mead, N.Y. -- 638 p., many black and white photos, one map -- 1980 -- \$19.95.

Audubon traveled extensively to observe nature, a somewhat unique accomplishment for a naturalist of that period. He kept detailed journals during this forty year period (1803-1843). The authors followed his path for over a year compiling entries written in counterpoint to Audubon's writings. The result is a new vivid picture of Audubon, one of the continent's major natural history figures. ed.

Seabirds, Their Biology and Ecology -- Bryan Nelson -- A. & W. Publishers, N.Y. -- 248 p., 38 color illustrations, chiefly photos, 70 black and white photos -- 1980 -- \$14.95.

This well-written overview of these unique birds draws from the scientific literature to show the diverse ways in which seabirds have evolved to make full use of their ocean environment. All groups of seabirds are covered and details on feeding habits and breeding biology are especially interesting. The book is recommended particularly for public libraries, since it conveys the information in a manner easily grasped by the casually interested reader. ed.

Pheasants, Their Breeding and Management -- K. C. R. Howman -- K & P Book, U.K., available in the U. S. from Arco Publishing Co., N. Y. -- 117 p., many color and black and white illustrations -- 1979 -- \$9.95.

While this book is written primarily for aviculturists over one-third of the text is devoted to a well-illustrated species listing. This section includes clutch size, moult information and natural range. Most of the species are illustrated by color photos. ed.

The Peafowl of the World -- Josef Bergmann -- Saiga Pub. Co., Hindhead, Surrey, U.K. -- 99 p., 24 color and many black and white illustrations -- 1980 -- £12 (about \$27.00).

While written primarily for aviculturists the book does include a section describing a bit of their natural life cycle. Another section is devoted to the use of peafowl in art. Many of the color illustrations represent the work of various artists. The book is a bit expensive but well done. ed.

Birds of Ocean and Estuary, Marsh and Shore, Heathland and Woodland, Hedgerow and Garden -- John Gooders, Ed. -- Orbis Publishing Ltd., 20-22 Bedfordbury, London, U.K. -- 272 p. each volume, hundreds of color drawings, photographs and maps -- 1978-79 -- £7.50 each.

In June we reviewed one volume of *The Orbis Encyclopedia of Birds of Britain and Europe*. This review covers the remaining four volumes. The titles imply a strictly habitat coverage, but actually it is taxonomic. The first volume, **Birds of Ocean and Estuary**, covers loons, grebes, shearwaters, herons, waterfowl and their allies. The second volume, reviewed in June, takes us through rails. **Birds of Marsh and Shore** covers all Charadriformes. **Birds of Heath and Woodland** covers doves, owls, woodpeckers, swallows, wrens, thrushes and their allies while **Birds of Hedgerow and Garden** covers the remaining Passeriformes using the European sequence which ends with crows.

For each species known to have occurred in Europe a large color drawing of fair merit is included as well as a range map for Europe, Western Asia and Northern Africa. The text details habitat preference, identification points, call, reproduction information, food, distribution, movements and subspecies. Many U.S. species, especially water birds, reach Europe occasionally and are covered. Each family is discussed on a worldwide basis and many photographs depict typical species from other parts of the world. In many cases an entire page or two is devoted to drawings of similar species indicating fine points of identification. Each volume closes with several chapters on some interesting general aspect of the groups covered such as "migration of terns". If you are interested in European birds, this is an excellent, detailed, but non-technical reference work. ed.

Atlas of Breeding Birds of the London Area -- David Montier, ed. Batsford, North Pomfret, Vt. -- 288 p., 123 maps and 120 line drawings -- 1977 -- \$49.50.

The atlas concept has been significant in England for over ten years and is beginning to come into vogue in the U. S. with several eastern states and Illinois leading the way. This book, although expensive due to the small area covered, serves as a good example of what can be done to pinpoint breeding bird populations. The London area has long been considered a 20 mile radius circle centered at St. Paul's Cathedral. This has been modified into a stepped polygon of 856 tetrads. Each tetrad is a square 2 km. on a side or just over a square mile. For each breeding species it is determined if it is present in suitable habitat, probably or positively breeding. A dot of increasing size is assigned for each category. The size of the dot does not indicate how many pair are present. At a glance one can see just where each species can be found in the breeding season. It took many observers to compile this book and it serves as a fine example of what effort and organization can accomplish. ed.

The Crows -- A Study of the Corvids of Europe -- Franklin Coombs -- Batsford, North Pomfret, Vt. -- 255 p., 4 color plates, 12 photos, 86 maps and line drawings -- 1978 -- \$28.95.

This thorough life history details what is considered the most advanced bird family by Europeans. For most of the eleven species the author discusses European and vernacular British names, field characteristics, distribution, posture, voice, social behavior, territory, pair formation, nesting, eggs, young, flocking, roosting, food, predators, parasites, and mortality. For several not all these details are known. Most interesting are the sections for posture illustrated by many line drawings. It is a very readable and complete account. ed.

Modern Wildfowling -- Eric Begbie -- Saiga Publishing Co., Ltd., Hindhead, Surry, U.K. -- 189 p., 8 color plates, 59 photos - 1980 -- L 8.50.

Recent years have seen a great variety of waterfowl books. This British addition to the list is written primarily from a hunter's perspective. In addition to some general information on life history, all species are illustrated in color. The bulk of the book deals with the specifics of hunting, equipment, dogs, safety,

regulations, etc. American hunters might learn from their British counterparts and would at least note variety in their approach to gunning. ed.

Nesting, Birds, Eggs, and Fledglings in Colour -- Winwood Reade and Eric Hosking -- Blandford Press, Poole, Dorset, available in the U. S. from Sterling Publishing Co., Inc., address above -- 275 p., 171 color and 38 black and white photos, 19 color plates of eggs -- 1974 -- \$8.95.

This longtime standard British field guide is now available in the U.S. It features a fine selection of Hoskings photos and includes accurate color paintings of 191 eggs. The text relates to all aspects of the nesting cycle covering breeding season, nest, eggs, nestlings, plumage description and hints for field observation. Everything fits into a pocket-sized book, handy for field reference. ed.

Birds' Eggs and Nesting Habitats -- Sigfried Holker-Blandford Press, Poole, Dorset, available in the U. S. from Sterling Publishing Co., Inc. -- address above -- 194 p., 256 color photos -- 1977 -- \$8.95.

The companion volume to the book reviewed in the preceding review makes the identification of any nest found with eggs in Western Europe relatively easy. Species are listed by habitat and cross-referenced to the photos. Conservation is stressed and a strong plea for the safety of each nest is included. ed.

How About Birdwatching -- Val Singleton and Arthur Gilpin -- E. P. Publishing, East Ardsley, Wakefield, West Yorkshire, U.K., available in the U. S. from Sterling Publishing Co., Inc. address above -- 96 p., 42 black and white photos, 5 line drawings -- 1979 -- paperbound, \$3.95.

This little book presents some very straight forward points regarding birdwatching as a hobby. It also covers techniques, equipment, field guides, identification, projects, and societies. While the specifics deal with England, the basics apply to the U. S. or anywhere. ed.

Bird Student, An Autobiography -- George M. Sutton -- U. of Texas Press, Austin -- 216 p., 10 color and 11 black and white plates -- 1980 -- \$15.95.

George Miksch Sutton is one of the most respected ornithologists and bird artists of recent time. This smoothly written volume covers his memories of boyhood in the midwest, far west, and eastern mountains. His many northern expeditions round out the book and bring the reader to 1935 when he was curator of the Fuertes Memorial Collection at Cornell. Sutton has an interesting way of intermixing fact and philosophy which lets us see the evolution of a naturalist. Hopefully another volume will be forthcoming to complete his story of a most interesting career. ed.

Birds Throughout the World -- Franz Robellier -- Hippocrene Books, Inc., N.Y. -- 218 p., 63 color photos, 43 line drawings -- 1980 -- \$17.50.

Originally published in Germany, this volume presents some typical birds from the various zoographic regions of the world. Geological development is featured in addition to geographic distribution, nature reserves and some specialized bird fauna. It is a well done overview and would fit well into college libraries. ed.

Ornamental Waterfowl -- Hartmut Kolbe -- Hippocrene Books, Inc., N.Y. -- 258 p., 86 color and 42 black and white photos, 11 maps -- 1980 -- \$17.50.

Another translation from German, the term waterfowl in the book includes herons, cranes, waders and gulls, as well as the true waterfowl. Eighty species, those most often kept in zoos, are included. In addition to avicultural comments the text includes size, plumage, status, and habitat in the wild, breeding biology, migration, annual cycle, and climate. It seems a useful volume for zoos, but not too valuable for birders. ed.

The British Ornithologists Guide to Bird Life -- Jim Flegg, Consultant Ed. --

Blandford Press, Ltd., U.K. available in the U.S. from Sterling Publ. Co., 2 Park Ave., N. Y. -- 284 p., 128 p. of color illus. -- 1980 -- \$27.50.

This guide is a bit larger than the usual field guide format and goes into more depth than most field guides. Originally published in Sweden and written by Carl-Fredrick Lundwall, it has been redone for the British birder. The plates are especially fine. The subjects are large enough to permit many plumage details to be readily apparent. The text is referred to as descriptive notes and includes an extensive field identification section, calls, breeding, food, and status data. A total of three hundred species are covered. It provides an excellent library type reference work for European birds. ed.

The Bird Identification Engagement Book, 1981 -- ills. by John Sill -- Stephen Greene Press, Brattleboro, Vt., 05301 -- 126 p. -- \$8.95.

This beautiful, spiral bound booklet goes beyond just giving you an ample space to list upcoming activities. The first few pages provide a six lesson bird identification primer. Only half the pages are numbered, so you can remove your notes of activities after 1981 and keep the full color illustrations of birds, on numbered pages, in your library. The back of the book has tips for attracting birds and choosing binoculars. ed.

The Eastern Bird Identification Calendar 1981, ills by John Sill -- Stephen Greene Press, Brattleboro, Vt. 05301 -- \$6.95.

As was done with the engagement book reviewed previously, this calendar includes an identification primer, and removable information on attracting birds and choosing binoculars. Either item would be an excellent gift for a birder. ed.

Have You Ever Heard of a Kangaroo Bird? -- Barbara Brenner -- Coward, McCann & Groghegan, N. Y. -- 48 p., 18 brown tone plates -- 1980 -- \$7.95.

This little book for children is directed at ages 7-10. It introduces young readers to 18 birds from throughout the world. It is intriguing and contains a remarkable amount of information. It would make a good gift for a young, potential birder. ed.

Pelee Spring -- Monty Brigham -- R. M. P. Wildlife Recordings, Box 70, R. R. No. 1, Manotick, Ontario, Canada -- 12 ", 33 one-third r. p. m. recording -- 1980 -- \$8.00.

Point Pelee is one of the most outstanding spring and fall migration hot-spots. This record, with no narration, presents a wide range of typical sounds from eight habitats. Starting with the breakers from Lake Erie and including the night sounds it lets you listen and read the jacket for the sequence of identification data. The quality is very good and every bird included occurs in Iowa. ed.

Welcome Birds to Your Home -- Jane and Will Curtis -- The Stephen Greene Press, Brattleboro, Vt. -- 154 p., many black and white ills. -- 1980 -- paperbound \$5.95.

Here is a little book written along the lines of **The Backyard Birdwatcher** (IBL 49:93) but much more reasonably priced. The authors describe methods of attracting birds, cover identification tips, present hints for treating injured birds and include information on binoculars and cameras. It is excellent for birders chiefly interested in enjoying birds on their own property. ed.

How to Control House Sparrows -- Don Grussing -- Roseville Publishing House, Roseville, Minn. -- 52 p., 2 photos -- 1980 -- paperbound \$3.95.

House Sparrows represent one of the greatest errors of bird introduction. This booklet suggests a variety of ways to combat them. The methods suggested vary from the elimination of careless feeding of bread crumbs to trapping and elimination. ed.

Domesticated Ducks and Geese -- Dr. J. Batty -- Saiga Publishing Co., Ltd.,

Hindhead, Surrey, UK -- 232 p., 7 color plates, many photographs, line drawings and diagrams -- 1979 -- £6.00 (about \$13.50).

Anyone involved in raising domestic waterfowl will find this volume packed with information. The various breeds are described, housing and ponding is covered as are ailments, showing techniques and preparation for the table. ed.

Note: All books reviewed in *Iowa Bird Life* can be ordered from Petersen Book Co., Box 966, Davenport, Ia. 52805. Not all are in stock but they can be ordered from the publisher for direct shipment to you or someone any place in the world. ed.

MEMBERSHIP LIST

Corrected through September 25, 1980

Year of joining follows address. Iowa unless otherwise noted. Report errors to Treas., address on p. 58. Membership class designations: (HC) - Honorary Charter; (H) Honorary; (L) Life; (C) - Contributing; (S) - Supporting; (R) - Regular; (J) - Junior; (F) - Family.

Alton, Mrs. Florence, P. O. Box 405, Oelwein 50662, 1959
 Armstrong, Eugene (S), Booneville 50038, 1972
 Atherton, Mrs. Stanley, Route 2, Springville 52336, 1956
 Augustine, Mrs. Frank, 3435 Wakonda Ct., Des Moines 50321, 1967
 Aurand, G. D., M.D., (L), 1127 N. 2nd Street, Clinton 52732, 1972
 Autenrieth, Horace (L), Route 1, Paullina 51046, 1975
 Ayres, Mr. and Mrs. Charles C. Jr., 922 N. Green St., Ottumwa 52501, 1941, 1955
 Ballantyne, Mrs. Dean, 1903 D. Shamrock Ave., Lee's Summit, Mo. 64063, 1959
 Barratt, Robert, Elliott Apts, 219 - 4th Street, Des Moines 50309, 1977
 Barrows, Harry S. (C), 1044 - 24th Street, West Des Moines 50265, 1972
 Bartlett, Wesley H., 423 S. Jones Street, Algona 50511, 1935
 Beals, Sandra L., 331 E. Spruce, Cherokee 51012, 1977
 Bell, Harlan L. (L), Box 541, Vinton 52349, 1962
 Bell, Mr. and Mrs. Robert (F), Route 2, Russell 50238, 1976
 Bendorf, Carl J. 825 - 7th Ave., Iowa City 52240, 1976
 Benne, Larry, 5908 Sioux River Raods, Sioux City 51109, 1979
 Berry, Robert V., Route 4, Iowa City 52240, 1978
 Bickelhaupt, Arbertum, 340 South 14th St., Clinton 52732, 1977

Bierman, Dick and Judy (F), 901 Harris, Cherokee 51012, 1975
 Binsfeld, Mrs. A. J., 1712 - 48th Street, Des Moines 50310, 1939
 Black, Mrs. Gladys B. (HL), 608 DeWitt Street, Pleasantville 50225, 1957
 Blackett, A. L. (Al), 603 West 15th Street N., Newton 50208, 1978
 Blanchard, Sam, 109 Happy Hollow Blvd., Council Bluffs 51501, 1978
 Blevins, Lewis D., 2003 East 12th Street, Davenport 52803, 1959
 Blome, Dr. and Mrs. Glenn (F), 224 E Pennsylvania Ave., Ottumwa 52501, 1973
 Blumer, Dwight N. (S), Route 1, Moulton 52572, 1977
 Boller, William A., 1524 Milton Avenue, Des Moines 50316, 1965
 Botts, Mrs. Helen, 109 N. 18th Street, Marshalltown 50158, 1978
 Bowers, Elaine, 1214 - 22nd Street, Des Moines 50311, 1978
 Bowles, John B., 229 University, Pella 50219, 1963
 Bowman, John, 329 Forest Road, Davenport 52803, 1980
 Boyd, Mrs. Ivan L., 1020 7th Street, Box 182, Bladwin City, Kansas 66006, 1937
 Braley, Mrs. F. M., 209 W. Thomas, Shendandoah 51602, 1956
 Branham, Alan, 810 Mound Street, Decorah 52101, 1976
 Bray, Mrs. Tanya, 9708 Grover, Omaha, Neb. 68124, 1979
 Brenton, Junius C. (S), S. W. 14th &

Windover Rd., Des Moines 50315, 1977

Brewer, Marion (S), Route 2, Cherokee 51012, 1975

Briggs, Shirley A., 7605 Honeywell Lane, Bethesda, Md. 20014, 1964

Brooke, Mr. and Mrs. Dwight (F), 126 51st Street, Des Moines 50312, 1957

Brown, Mrs. Woodward H., 432 Tonawanda Drive, Des Moines 50312, 1958

Brown, Mrs. Betty, 1315 N. 19th Street, Fort Dodge 50501, 1977

Brown, Mrs. Joseph K., (S), 10414 Applegate Dr., San Antonio, Texas 78230, 1966

Brunner, Dorothy A., Route 2, Nora Springs 50458, 1946

Bryant, Eldon J., Route 1, Box 104, Akron 51001, 1962

Buckles, Mrs. Ruth E., 5612 Urbandale Avenue, Des Moines 50310, 1973

Burk, Dr. Myrle M. (C), 1511 E. Gresham Rd., Waterloo 50701, 1949

Burns, Mr. and Mrs. Gene (F), P. O. Box 32, Jamaica 50128, 1975

Butcher, Gregg, 12051 - 32nd Avenue N.E., Apt No. 5, Seattle, Wash. 98125, 1980

Camarata, Antoinette, 1420 Patton Ave., Waterloo 50702, 1971

Carlson, Douglas C., 2046 Cessna, Ames 50010, 1976

Carlson, Judith A., Route 2, Box 68, Laurens 50554, 1980

Carlson, Mrs. Marie, Route 2, Boone 50036, 1976

Carpenter, Mrs. Madeline, 3646 John Hix Rd., S., Wayne, Mi. 48184, 1957

Carter, Dennis L. (S), Route 4, Box 292-H, Luray, Va. 22835, 1947

Ceradsky, Ernestine, Route 1, Charles City 50616, 1977

Christ, Edwin E., 606 E. Main St., Lake Mills 50450, 1980

Christensen, Mrs. Eunice M., P. O. Box 1096, Thomasville, Ga. 31792, 1951

Clark, William M., 3906 Grace Ellen Dr., Columbia, Mo. 65201, 1979

Clausen, Delmar, 53 Stony Way, Mason City 50401, 1976

Cook, Mr. and Mrs. Marlin (F), 2715 W. 35th Street, Davenport 52806, 1978

Copp, C. Esther, Box 36, Wheatland 52777, 1933

Cortelyou, R. G., 5109 Underwood Avenue, Omaha, Neb. 68132, 1960

Corzette, Virgil, 1914 Gladstone, Ottumwa 52501, 1973

Crane, Frederick G., 338 - 29th Street, Des Moines 50312, 1973

Coulter, Mrs. Enid, 620 Haynes Avenue, Centerville 52544, 1977

Crocker, Mr. and Mrs. Edwin G. (L & L), 720 E. First St., Storm Lake 50588, 1967, 1960

Crossley, Mr. and Mrs. George E., (F), 1890 Wood Street, Dubuque 52001, 1948

Cummins, Mr. and Mrs. Raymond (F), 204 N.W. 12th, Pocahontas 50574, 1978

Current, Charles and Anne (F), Route 1, Box 153, Ottumwa 52501, 1977

Dalbey, Dwight J. (S), 1054 Belle Mar Dr., West Des Moines 50265, 1977

Daniel, John F., 5632 Plainview Dr., N.W., Cedar Rapids 52405, 1979

Dashner, Mrs. Joan (S), Route 1, Pacific Junction 51561, 1970

Davidson, Mrs. Nancy E., 3911 Hull Avenue, Des Moines 50317, 1975

DeCoster, Richard J. II, (S), 3166 N. Hudson, Apt. 2, Chicago, Ill. 60657, 1975

Delle, Margrieta, 703 Streb Street, Iowa City 52240, 1966

DeLong, Mrs. W. C., 314 N. Silver, Lamoni 50140, 1939

DeMeulenaere, Robert L., 231 Sussex Drive N.E., Cedar Rapids 52402, 1978

DeVault, Mrs. Florence, 306 N. Main, Inwood 51240, 1978

DeWall, Rita, Route 1, Box 15, Pocahontas 50574, 1980

Diggs, Mr. and Mrs. Fitzhugh L., Route 1, Box 64, Hamburg 51640, 1963, 1961

Dinsmore, James, Dept. of Animal Ecology, Iowa St. U., Ames 50011, 1975

Dodd, Jack L., M.D., 235 Trailridge Road, Ames 50010, 1980

Dorow, Mr. and Mrs. Herb (F), 1200 S. 8th Ave. E., Newton 50108, 1971

Duggan, Mr. and Mrs. John (F), 622 S. President, Mason City 50401, 1979

DuMont, Philip A. (H) 4114 Fessenden St. N. W., Washington, D. C. 20016, 1932

Duncan, Mrs. Robert J., 1403 Barrett Street, Burlington 52601, 1980

Dwyer, Timothy L., 207 E. 10th St., Muscatine 52761, 1976

Earhart, LaVola J., (S), 205 W. Madison, Jefferson 50129, 1977

Easterle, Dr. David A., 1420 N. Dewey, Maryville, Mo. 64468, 1977

Efta, Mrs. Clem, Route 1, Auburn 51433, 1977

Ehlers, Mrs. John, 305 Chestnut Street, Reinbeck 50669, 1947

Eller, Mrs. Dennis, Route 1, Hubbard 50122, 1976

Eness, Vergil D., 415 - 18th Street W., Clear Lake 50428, 1977

Englehorn, Alfred J., 2923 Arbor Street Ames 50010, 1954

Erickson, Floy, 1298 - 29th N. E., Cedar Rapids 52402, 1971

Farmer, Mr. and Mrs. Larry K., (F), Route 1, Westfield 51062, 1974, 1978

Fast, Lucille S., 1320 N. Carroll, Carroll 51401, 1975

Fawks, Elton, 510 Island Avenue, East Moline, Ill. 61244, 1950

Fee, Marjorie K., Route 3, Box 44, Knoxville 50138, 1980

Feldkmap, Jill, 60 Indian Trail, Route 5, Iowa City 52240, 1980

Felsing, Mr. and Mrs. Paul (F), Route 3, Box 158, Knoxville 50138, 1973

Field, Russell D. and Family (F), 1101 Willow, Harlan 51537, 1979

Fisher, The Richard family (F), Route 2, Keosauqua 52565, 1964

Flynn, Dr. and Mrs. Gordon (F), 2246 W. 3rd Street, Davenport 52802, 1976

Flynn, Mrs. Norval C., 1640 Cornwall Avenue, Waterloo 50702, 1966

Ford, Arthur M., Box 173, 635 E. Main, Moville 51039, 1959

Formanek, Kenneth J., 820 Knob Hill Drive, Des Moines 50317, 1964

Frings, Hubert, 34 Elm Street, Machias, Maine 04654, 1970

Fromm, Mrs. Thelma, Route 4, Mason City 50401, 1975

Fuller, Dr. James, 625 Brookland Park Drive, Iowa City 52240, 1973

Fuller, Mrs. Lowell, 148 Windsor Circle, Burlington 52601, 1962

Fullerton, Eleanore, Apt. 20C, 1620 Spyglass Hall, Cedar Rapids 52402, 1958

Fulton, Bernard C. (L), 517 E. Vine, Ottumwa 52501, 1973

Galvin, Mrs. Ardiss, Route 1, Alta 51002, 1974

George, Gail, 1791½ Osborn, Apt. 2, Burlington 52601, 1979

Getscher, Mrs. Edwin A. (S), No. 4 Skyline Drive, Hamburg 51640, 1959

Gillaspey, J. Donald, Route 1, Box 66, Lamoni 50140, 1956

Glasgow, Mrs. Clifford, 619 Forest Blvd., Marshalltown 50158, 1970

Glasson, Mrs. Marilyn S., 658 Hawkeye St., Iowa City 52240, 1974

Goodwin, A. L., 808 W. Detroit, Indianola 50125, 1980

Goellner, Dr. and Mrs. Karl E. (F), 1764 Sherbrook Dr. N.E., Cedar Rapids 52402, 1956, 1972

Goodman, Dr. John D., Biology Dept., Anderson College, Anderson, Ind. 46011, 1946

Goodwin, Elizabeth A., 818 Polk Blvd., Des Moines 50312, 1978

Govro, Mrs. Dorothy, Box 534, Rockford 50468, 1977

Grawburg, Mr. and Mrs. W. A. (F), 901 Park Ave., Cherokee 51012, 1980

Green, Mrs. Ruth C., 506 W. 31st Ave., Bellevue, Neb. 68005, 1977

Greenwood, H. Edward, Emerson 51533, 1979

Greer, Msgr. Edward C. (S), 415 E. Pleasant Valley, Sigourney 52591, 1971

Greer, Mrs. Janet, 341 Steven Circle, Council Bluffs, 51501, 1976

Grimes, L. Orville (S), 313 N. 15th Street, Marshalltown 50158, 1964

Gritton, James H. (S), 4117 Boyd, Des Moines 50317, 1972

Gruwell, Mrs. W. R., 700 Laurel Park Road, Dubuque 52001, 1952

Guthrie, Mr. and Mrs. Richard A. (F), Box 122, Granger 50109, 1939

Haack, Mrs. Ewald M., Box 126, Klemme 50449, 1977

Hahn, Allan C., 932 Hancock Street, Muscatine 52761, 1977

Haldy, Lanny R., Box 5, Amana 52203, 1977

Hall, Willis, 1111 Douglas Avenue, Yankton, S. D. 57078, 1978

Hallberg, Mrs. M. K. (L), No. 4 Rock Bluff Road, Ottumwa 52501, 1959

Halmi, Nicholas S., 200 Winston Dr., No. 707 Cliffside Pk., N.J. 07010 1972

Hamilton, Mrs. Oliver F. (S), 1800 River Street, Burlington 52601, 1971

Hampson, James E., 30 N. Fifth Street, Princeton, Ill., 61358, 1969

Hames, John, 362 Idlewood Road, Pittsburgh, Pa. 15235, 1978

Hanft, Richard (C), Box 123, Nichols, 52766, 1965

Hanna, Mr. and Mrs. Darrell M. (F), 25115 Kirby St. No. 111, Hemet, Ca 92343, 1958, 1955

Hannum, Kathy, 701 - 2nd Ave. S. W., Waukon 50172, 1980

Hansen, James L., 1024 South 8th Street, Clear Lake 50428, 1980

Hansen, Mrs. Leroy C., 314 McKinley Avenue, Lowden 52255, 1965

Hanson, Chip, Route 1, Winterset 50273, 1978

Hanson, Mrs. Jon, Route 1, Clear Lake 50428, 1979

Harbour, Mary Ann, 1614 Marcella Heights Drive, Carroll 51401, 1980

Haring, Barbara L. (S), 2902 Eastwood Drive, Iowa City 52240, 1978

Harms, Ronald, D.D.S., Arcade Bldg., Laurens 50554, 1980

Harper, Sam, 1115 N. Court, Ottumwa 52501, 1979

Harr, Douglas C., Box 65, Larchwood 51241, 1977

Harrington, Irene, 1834 First Avenue N.E., Cedar Rapids 52402, 1959

Haskell, Mrs. Gladys E., 231 E. Creston Avenue, Des Moines 50315, 1952

Hatfield, Mary Jane, Route 2, Norwalk 50211, 1979

Hawkinson, Mary F. (L), 10 Roberts Avenue, Davenport 52803, 1973

Hays, Russell M., 533 Home Park Blvd, Waterloo 50701, 1939

Hayward, Mrs. John V., Route 1, Dodge's Point Beach, Clear Lake 50428, 1980

Hayward, Mrs. Viola (L), P.O. Box 866, Fairfield 52556, 1954

Heine, Russell, Route 4, Spencer 51301, 1977

Heintzman, James J., Route 1, Box 4A, Plymouth 50464, 1979

Henrickson, Dennis R., Jr., Route 4, Estherville 51334, 1977

Hermansen, Mrs. George, Route 1, Box 58, Corning 50841, 1967

Herrin, Teresa J., 508 Main Street, Apt. 3, Pella 50219, 1980

Heuer, Ralph J. (S), 2528 Wilkes Avenue, Davenport 52804, 1940

Heusinkveld, Irwin R., 304 S. Mickley Street, Paulina 51046, 1972

Heusinkveld, Mr. and Mrs. Willis M., 840 South Park, Centerville 52544, 1973, 1977

Hill, Mrs. Grayce Easton, 419 Haynes Avenue, Centerville 52544, 1976

Hines, Jody, 1939 College Street No. 210, Cedar Falls 50613, 1979

Hobbs, Zane, Route 2, Box 67, Britt 50423, 1980

Hodges, Herbert J. (L), 1810 E. River Drive, Davenport 52803, 1944

Hollis, Richard J., 3351 Lower West Branch Road, Iowa City 52240, 1978

Holmes, Rex D. (S), 602 High Street, Red Oak 51566, 1977

Holz, Barbara, Route 2, Grand Junction 50107, 1977

Hope, Norma L., 3216 Jefferson, Des Moines 50310, 1980

Hopkins, Thaine A., 417 W. Garfield, Laurens 50554, 1980

Horak, Janice J., Route 1, Swisher 52338, 1973

Hoskins, Mr. and Mrs. Nelson R. (F), 508 Shaul Avenue, Ottumwa 52501, 1976

Hoskinson, Mrs. Helen Hall, 622 North Tenth Street, Clarinda 51632, 1932

Huber, Mr. and Mrs. James (F), 810 Walnut Street, Cherokee 51012, 1980

Huber, Ronald L., 2896 Simpson Street N., Roseville, Mn. 5513, 1964

Huff, Marlys, 310 S. 18th Avenue, Marshalltown 50158, 1976

Huit, M. L., 626 Brookland Park Drive, Iowa City 52240, 1963

Irey, Mrs. Wayne, 507 E. 7th, West Liberty 52776, 1975

Jackson, Jerome A. (L), Dept. of Zoology, Miss. State U., P.O. Drawer Z, Mississippi State, Miss. 39762, 1967

Jardine, Wallace E., Route 2, Box 9, Pocahontas 50574, 1978

Jennings, Mrs. Donald E., Box 96, Shenandoah 51601, 1977

Johnson, Ann L., Route 1, Norwalk 50211, 1961

Johnson, Clifford O., 891 Kaufmann, Dubuque 52001, 1941

Johnson, David S., 1137 West Cherry Street, Cherokee 51012, 1980

Johnson, Donald G. and Elaine W., (S & S), 81 Woodshire Drive, Ottumwa 52501, 1967

Johnson, Lynn, P.O. Box 54, McGregor 52157, 1968

Johnson, Thomas N., 2450 N. Jefferson, Ottumwa 52501, 1976

Johnston, Linda, c/o Clark Van DePol, Blakesburg 52536, 1977

Jones, Mrs. Bette, 2813 Francis Drive, Des Moines 50310, 1975

Kail, Henry, Route 1, Farnhamville 50528, 1977

Kaldenberg, Mrs. Orville, 504 W. Marion, Monroe 50170, 1973

Kamerick, Mrs. M. G., Route 4, Ottumwa 52501, 1977

Kane, Miss Florence (S), 302 - 4th Avenue S.W., Independence 50644, 1957

Kaufman, Mrs. Charles L., P. O. Box 67, Grinnell 50112, 1962

Keck, Dr. Warren N. (L), Box 444, Keosauqua 52565, 1936

Keenan, James, Route 3, Ogden 50212, 1948

Keettel, Dr. William C. (S), 343 Hutchinson Avenue, Iowa City 52240, 1959

Kennedy, Joseph G., 13717 Chef Menteur Hwy, Apt. 203, New Orleans, La. 70129, 1958

Kent, Fred, 302 Richards Street, Iowa City 52240, 1950

Kent, Dr. Thomas H. (L), 211 Richards Street, Iowa City 52240, 1950

King, Mrs. Ross C. (L), 3699 Mississippi View, Clinton 52734, 1961

Kinnaird, Mrs. Edith (H), 1717 Norfolk Avenue, Lubbock, Texas 79416, 1932

Kirkendall, Mrs. Stella M. (S), South View Acres, Inc., Apt. 4, Melbourne, 50162, 1974

Kirchgatter, Mr. and Mrs. H. A. (F), 801 Kingsley Avenue, Waterloo 50701, 1973

Klaas, Erwin E., 1405 Grand Avenue, Ames 50010, 1975

Kleen, Vernon M., Route 2, Athens, Ill. 62613, 1971

Kline, Mr. and Mrs. Edwin A. (F), 2025 Friley Road, Ames 50010, 1965

Knight, Calvin A., 425 Lee Street, Iowa City 52240, 1975

Knoop, Pearl, Box 215, Marble Rock 50653, 1938

Kock, Larry, Route 2, Box 120, Muscatine 52761, 1980

Koenig, Darwin (S), Box 389, Montezuma 50171, 1964

Konefes, John, 411 E. 3rd Street, West Liberty 52276, 1979

Konradi, Lowell A., Box 24, Odebolt 51458, 1977

Koppen, Mrs. Parker, Box 35, Swaledale 50477, 1976

Krieger, Curtis E., 1154 Crestmore Way, Mason City 50401, 1977

Kuhlman, Mrs. Charles, 1727 N. Grant Road, Carroll 51401, 1976

Kurtz, Carl, Route 1, St. Anthony 50239, 1975

Lande, Joseph O., Box 129, Okoboji 51355, 1975

Landenberger, James F., 2031 Northgate Drive N.E., Cedar Rapids 52401, 1971

Landes, Mrs. Mina I., 732 - 12th

IOWA BIRD LIFE - L, 1980

Avenue N., Fort Dodge 50501, 1977
 Lanning, Mrs. Virginia B., 816 W. Second Street, Madrid 50156, 1971
 Larson, Leonard A. (L), 225 Maine Street, Farnhamville 50538, 1977
 Laub, Mrs. Russell, R.F.D., Rippey 50235, 1977
 Laubach, Rene, 1045 - 63rd Street, Des Moines 50311, 1979
 Layton, Mr. and Mrs. Beryl (F), 1560 Linmar Drive, N.E., Cedar Rapids 52402, 1970, 1958
 Layton, Keith D., Box 124, Oskaloosa 52577, 1958
 Lesher, Fred, 509 Winona Street, LaCrosse, Wis. 54601, 1956
 Lilja, Mrs. Marilyn H., 84 River Ridge Road, Cedar Falls 50613, 1977
 Liljedahl, Mrs. Lucile, 1080 - Street, Marion 52302, 1947
 Lindner, Bruce W., 305 First Avenue N.W., Clarion 50525, 1977
 Livermore, Wayne, 4537 Country Club Blvd., Sioux City 51104, 1978
 Lohff, Mr. and Mrs. Clarence E. (F), 528 S. Kiel, Holstein 51025, 1978, 1975
 Lowder, Kenneth L., 1211 Wylde Green Road, Iowa City 52240, 1978
 Lowell, Mrs. Margaret, Route 1, Box 346, Fairfield 52556, 1953
 Lowther, Peter, Museum of Natural History, Univ. of Kansas, Lawrence, Kan. 66045, 1963
 Lyle, Mr. and Mrs. Jim (F), Route 2, Tipton 52772, 1980
 Maas, Tomma Lou, Route 2, Ames 50010, 1976
 Mac Cracken, Mrs. Lela, 8118 Terrace Drive, El Cerrito, Calif 94530, 1977
 Maish, Mr. and Mrs. James P. (F), Box 546, State Center 50247, 1964, 1980
 Malmberg, Kathryn, Route 2, Centerville 52544, 1973
 Mannetter, Mrs. Donald, Route 1, Box 138, Hubbard 50122, 1975
 Martin, Mr. and Mrs. Wm. M. (F), 706 13th Avenue N.W., Clinton 52732, 1978, 1979
 Mason, Timothy, Route 1, Waterville 52170, 1980
 Mayberry, Mrs. Earl L., Box 263, Wyoming 52362, 1946
 Melcher, Rev. M. C., 540 - 12th Street, Box 353, Marion 52302, 1939
 Michaelsen, Michael, Box 555, Holstein 51025, 1980
 Miller, Barbara, 2730 Moyer Street, Des Moines 50310, 1976
 Miller, Hilda E., 1211 - 19th Avenue, Rock Valley 51247, 1972
 Miller, Mr. and Mrs. Lowell A., (F), 714 Oregon, Waterloo 50702, 1975, 1977
 Millikin, Mrs. Forrest G., 1126 Ingleside Dr. S.W., Cedar Rapids 52404, 1944
 Moats, Bob, Route 3, Estherville 51334, 1980
 Mohler, Dawson, 1030 Dover, Iowa City 52240, 1980
 Mooney, Mr. and Mrs. Richard D., (F), 3814 Carpenter Avenue, Des Moines 50311, 1966, 1971
 Moore, Francis L., 264 Western Avenue, Waterloo 50701, 1979
 Mosman, Darwin (Dean), Route 1, Box 112A, Elkhart 50073, 1973
 Mudge, E. W., Jr., (L), 5926 Averill Way, Dallas, Texas 75225, 1966
 Muilenburg, Ronald W. (S), 33 Hillcrest Ct., Webster City 50595, 1959
 Murley, Margaret R., 816 Simpson Street, Evanston, Ill. 60201, 1963
 Musgrove, Jack W., 2414 Adams Avenue, Des Moines 50310, 1938
 Mustain, Mrs. Dale, "River's End", Route 2, Mason City 50401, 1975
 Myers, Robert, 1236 Sylvia Avenue, Waterloo 50701, 1978
 McBride, Beth E., 510 5th S.E., Mason City 50401, 1978
 McCormick, Warren, 303 E. Edgington Avenue, Box 46, Eldora 50627, 1977
 McKay, Kelly, 420 - 1st Avenue, Hampton, Ill. 61256, 1980
 Nagel, Margaret M., 503 Cutler Street, Waterloo 50703, 1958
 Natte, Roger B., 2340 19th Avenue N., Fort Dodge 50501, 1980
 Nearing, Mr. and Mrs. C. Turner (F), 1400 W. Macon Street, Decatur, Ill 62522, 1961, 1975

Nelson, Barbara L., Route 1, Box 218, Ruthven 51358, 1980

Nelson, Curt, Route 4, Mason City 50401, 1980

Nelson, D. Weir, Jr., (C), Route 1, Ely, 52227, 1975

Newhouse, David A., Wildlife Research Station, Route 1, Boone 50036, 1979

Newlon, Dr. and Mrs. Michael C. (F), 408 Wales Street, Iowa City 52240, 1974

Nicholson, Marcia (S), 3662 Ingersoll Avenue, Apt. 314, Des Moines 50312, 1964

Nickolson, Mr. and Mrs. Robert L. (F), 2314 Helmer Street, Sioux City 51103, 1948, 1959

Norman, Mrs. Audrey, Union 50258, 1980

Norman, Mrs. Barbara, 823 Franklin, Keokuk 52632, 1980

Ollivier, Mr. and Mrs. Roy (F), 802 Pine Circle, Starkville, Miss 39759, 1943, 1973

Olsen, Mrs. A. Edmund, 1521 West Main Street, Marshalltown 50158, 1975

Oppedahl, Roberta A. (S), 906 Suburban Street N.E., Cedar Rapids 52402, 1972

Orrick, Mrs. H. C. Jr., 2203 Terrace Drive, Cedar Falls 50613, 1977

Osher, Mrs. J. B., P. O. Box 603, Arnolds Park 51331, 1959

Osmundson, Mr. and Mrs. Robert (F), Route 6, Box 189, Iowa City 52240, 1977

Osness, Mr. and Mrs. John M., 320 Columbia Circle, Waterloo 50701, 1960, 1972

Parsons, Mrs. Robert O., 208 Lake Street, Box 24, Sioux Rapids 50585, 1942

Pearson, C. E. (S), 632 N. Stone Avenue, LaGrange Park, Ill. 60525, 1955

Peasley, Helene, 2001 Nash Drive, Des Moines 50314, 1934

Pellett, Mr. and Mrs. Melvin (F), Pellett Gardens, Route 3, Atlantic 50022, 1979

Peters, Mr. and Mrs. Leo (F), Box 56, Rockwell 50469, 1980

Petersen, Mr. and Mrs. Peter C. (S & R), 235 McClellan Blvd., Davenport 52803, 1952, 1962

Petersen, Thelma, Kirkman 51447, 1980

Pettijohn, Mrs. Clyde, 309 Prospect Street, Shell Rock 50670, 1969

Pettingill, Dr. Olin S., Jr. (L), Wayne, Maine 04284, 1937

Phipps, Ruth (S), 310 University, Shenandoah 51601, 1966

Pierce, Mr. and Mrs. Fred J. (HC & H) Winthrop 50682, 1923, 1957

Plambeck, Esther D., Beaman 50609, 1977

Prasad, Blanche, Scotch Acres, Paton 50217, 1965

Pratt, LeRoy, 317 S. W. 42nd Street, Des Moines 50312, 1980

Prince, Herbert M., Route 2, Box 374, Keokuk 52632, 1963

Pritchard, Mr. and Mrs. H. Wayne (F), 2724 61st Street, Des Moines 50322, 1978

Putnam, Mrs. Max, 3522 38th Street, Des Moines 50310, 1965

Rector, Harry E., 507 W. 13th Street, Vinton 52349, 1942

Rider, Ruth, 101 East Hempstead, Fairfield 52556, 1977

Rinehart, Mr. and Mrs. Homer (F), Box 43, Marshalltown 50158, 1959

Rogers, Sandi, Route 1, Moorland 50566, 1978

Rolenc, Mr. and Mrs. Edward (F), 604 E. Henry, Mt. Pleasant 52641

Roosa, Dean M. (L), Preserve Board Ecologist, Iowa Conservation Comm., Wallace State Office Bldg., Des Moines 50319, 1957

Rosene, Walter Jr., 127 Oak Circle, Gadsden, Alabama 35901, 1941

Roughton, Michael, 621½ Northwestern, Ames 50010, 1979

Rouw, Mark, 1202 E. Sheridan, Des Moines 50316, 1968

Royer, Lawrence, 235 South 900 West, Cedar City, Utah 84720, 1980

Ruegnitz, Mrs. R. S., (S), 2117 Orchard Drive, Dubuque 52001, 1942

Runkel, Sylvan T., 3101 - 45th Street, Des Moines 50310, 1935

Ruprecht, Jeanette, 103 Jefferson,
Lowden 52255, 1974

Ryan, Mark R., Dept. Animal
Ecology, 124 Science II, Iowa State
U. Ames 50011, 1977

Sand, Mary, 723 - 7th Avenue N., Fort
Dodge 50501, 1980

Sand, Sibyl D., Route 2, Lake Mills
50450, 1977

Sandrock, James P. (C), 1634 Morn-
ningside Drive, Iowa City 52240, 1980

Sandrock, Johanna K. (J), 1634
Morningside Drive, Iowa City 52240,
1980

Sauer, Dr. Pauline L., Museum
Director, Univ. of Northern Iowa,
Cedar Falls 50613, 1965

Savage, Mr. and Mrs. Edward (F),
613 N. 16th Street, Marshalltown
50158, 1969

Schaefer, Joseph M., 124 Sci. II, Iowa
St. U., Ames 50011, 1978

Schaufenbuel, Joe, St. Lucas 52166,
1976

Scheller, Donald M., (S), 213 East
Church Street, Gilman 50106, 1979

Schlemmer, Conrad F., 1218
Wedgewood Drive, Council Bluffs
51501, 1973

Schmidt, Rodney A., 415 Avenue B
East, Bismarck, N.D., 58501, 1979

Schramm, Frank H., Box 587, Cliff
Road, Burlington 52601, 1934

Schwartz, Charles, M.D., 1148 Staub
Court, N.E., Cedar Rapids 52402,
1963

Scott, Clark, 5005 - 49th Avenue,
Moline, Ill. 61265, 1980

Scott, Mrs. Richard L., 320 E. Lee,
Seymour 52590, 1968

Seeck, Margaret C., Lohrville 51453,
1977

Selters, Helen Cummings, Box 291,
Newton 50208, 1980

Serbousek, Lillian, 1226 Second Street,
S.W., Cedar Rapids 52404, 1932

Seward, Garnita (S), Route 2, Eldora
50627, 1978

Shepley, Rohn K., Route 6, Box 354,
Ottumwa 52501, 1978

Shires, Thomas K., 301 Woodridge,
Iowa City 52240, 1977

Silcock, Dr. W. Ross, Route 2,
Malvern 51551, 1975

Silver, Mr. and Mrs. Ralph (F), 109 S.
State Street, Lamoni 50140, 1961,
1956

Sinclair, Jim, 1003 W. Third No. 54,
Indianola 50125, 1977

Slife, Nancy L., Route 2, Pine Lake,
Eldora 50627, 1975

Smith, Tim, 602 E. 10th Street S.,
Newton 50208, 1979

Snetselaar, Karen, 326 Des Moines
Street, Ankeny 50021, 1980

Snyder, Rick, 185 Robinwood Drive,
Robins 52328, 1978

Sorensen, Mrs. Raymond E., 302 W.
Washington, Winterset 50273, 1967

Spears, Marie, 103 Southview Circle,
Shenandoah 51601, 1970

Spittler, Gene, 117 Parkview Drive,
Webster City 50595, 1980

Stark, Harriet L. (S), 107 Fairview
Drive, Forest City 50436, 1978

Staudt, Tom (S), 931 N. Summit, Iowa
City 52240, 1974

Steimel, Earl W., Route 4, 10746
Hammond Ave., Waterloo 50701,
1975

Stewart, Paul A., 203 Mooreland
Drive, Oxford, N.C., 27565, 1977

Stille, Joyce M., R.F.D., Box 69,
Swaledale 50477, 1980

Stoker, Joyce L., 1409 Edgewood Road
N.W., Cedar Rapids 52405, 1977

Stone, Larry A., Box 68, St. Olaf,
52072, 1975

Stone, Thomas, 1632 Woodmayr,
Waterloo 50703, 1976

Strawn, Mrs. John T., Jr., Route 1,
Vinton 52349, 1956

Strickland, Jud W., 413 S. Third Street
W., Mt. Vernon 52314, 1945

Studer, Mrs. Lee, 306 E. Main,
Elkhart 50073, 1978

Swamer, J.R. (C), Box 1426, Iowa City
52240, 1978

Sweet, Arlene, 217 W. Fourth Street,
Aurelia 51005, 1975

Tanner, Mrs. Raymond, 104 East 22nd
Street, Atlantic 50022, 1977

Thornburg, M. A., 901 S. Warfield
Drive, Mt. Airy, Maryland 21771,
1973

Thornburg, Robert, Route 1,

Pleasantville 50225, 1977
 Thornton, Mrs. P. C., 326 Otsego Street, Storm Lake 50588, 1951
 Toyne, Mrs. George W., (S), 206 - 4th Avenue S., Humboldt 50548, 1952
 Triplett, Mrs. Burdell, 1312 - 2nd Avenue E., Spencer 51301, 1977
 Turner, Almira, 1003 West Street, Corning 50841, 1977
 Unmacht, James H. II, 1215 Oakland Road N.E. No. 45, Cedar Rapids 52402, 1978
 Van Cleve, G. Bernard, 304 S. Winebiddle Street, Pittsburgh, Pa. 15224, 1967
 Vander Meer, Steven, 808 Plymouth Street S.E., LeMars 51031, 1977
 Vander Streek, Nola, 1335 Northwest Drive, Pella 50219, 1972
 Van Dyk, Dr. John, 736 E. First Street, Sioux Center 51250, 1970
 Vane, Dr. and Mrs. Robert F., 2220 Grande Avenue S.E., Cedar Rapids 52403, 1940, 1946
 Van Liew, Virginia, 3100 Grand Avenue, Apt. 4-A, Des Moines 50312, 1968
 Vaughn, Mary Beth, 201 E. Clarinda, Shenandoah, 51601, 1976
 Wahab, Charles E., 3333 Grand Avenue, Apt 181, Des Moines 50312, 1977
 Wahlstrom, Shirley A. (S), 239 E. Main, Cherokee 51012, 1977
 Wallace, Mrs. Lynn E. Route 3, Box 9182, Spirit Lake 51360, 1975
 Walters, Elizabeth L., 207 West Thomas Avenue, Shenandoah 51601, 1964
 Walton, Robert J., Route 1, Peosta 52068, 1978
 Ware, Jeanne M., 3915 S.W. 4th Street, Des Moines 50315, 1980
 Warters, Lurene A., 5115 Woodland Avenue, Des Moines 50312, 1977
 Weaver, Gertrude S., 1425 Nebraska, Sioux City 51105, 1946
 Webb, Dr. Morgan C., 1325 S. Newton Street, Sioux City 51106, 1966
 Wellander, Jeff (S), 3351 Sims Drive, Des Moines 50317, 1972
 Weller, Dr. Milton W., Dept. of Ent., Fisheries & Wildlife, U. of Minn., St. Paul, Mn 55101, 1958
 Welp, Jenny (C), Box 204, Elkader 52043, 1979
 Wentworth, June, Wheatland 52777, 1974
 Wershofen, Pauline, Route 4, Box 193, Winona, Mn 55987, 1954
 Westberg, Donna, 220 N. 6th Street, Carlisle 50047, 1980
 White, Evelyn Jean, P. O. Box 1340, Carlsbad, Cal. 92008, 1975
 Widner, Russell R., M.D., Route 6, Marshalltown 50158, 1977
 Wiedemeyer, Eva B., 1015 N. Adams Street, Carroll 61401, 1975
 Williams, Patricia, Route 1, Hinton 51024, 1974
 Willis, Myra G., 1224 - 13th Street N.W., Cedar Rapids 52405, 1937
 Wilson, Barbara L., Route 1, Box 41, Hastings 51540, 1978
 Wilson, Beth, (S), Route 2, Paullina 51046, 1978
 Wilson, Valeria Louise, Route 1, Box 29, Clinton 52732, 1973
 Wuellner, Mrs. Keith A., 1321 Osborn Street, Burlington 52601, 1966
 Wymore, Gary, 847 South Ward, Ottumwa 52501, 1975
 Young, Dr. Richard A., 820 - 2nd Avenue, N.E., Clarion 50525, 1963
 Zachman, Gary E. (L), 1704 Beaver Pond Road, Inverness, Ill 60067, 1978
 Zaletel, Linda, 667 Pammel Court, Ames 50010, 1974
 Zaruba, Elinore, 1501 Yuma Drive, N.W., Cedar Rapids 52405, 1978

LIBRARIES

Library, Serial Dept., Iowa State Univ., Ames 50011
 Senckenbergische Bibliothek, Zeitschriftenabteilung-DFG, Bockenheimer Landstr. 134-138, Bundesrepublik, Deutschland
 Cedar Falls Public Library, 524 Main Street, Cedar Falls 50613
 Library, Serials Section, Univ. of Northern Iowa, Cedar Falls 50613
 Cedar Rapids Public Library, Periodical Service, Cedar Rapids 52401

Coe College, Stewart Memorial Library -- Periodicals, Cedar Rapids 52402

University of Missouri -- Library, Columbia, Mo. 65201

Public Library, Periodicals Desk, 4th & Main Sts., Davenport 52801

Luther College, Decorah 52101

Northern Ill. Univ., S. F. Parson Library, DeKalb, Ill. 60115

State Library, Historical Building, Des Moines 50319

Order Division, Des Moines Public Library, 100 Locust St., Des Moines 50309

Ekstrand Elem. School, 1140 - 15th Street, DeWitt 52742

Wahlert Memorial Library, Loras College, Dubuque 52001

Fulton Elementary School, 2540 Central Avenue, Dubuque 52001

Science Dept., Univ. of Dubuque, c/o Dr. David Straley, Dubuque 52001

Ficke Laird Library, Univ. of Dubuque, Dubuque 52001

Wildlife Serv. Sci. Ref. Library, Federal Building, Ft. Snelling, Mn 55111

Grand Mound Elementary School Library, Grand Mound 52751

Fort Hays Kansas State College, Serials Dept., Forsyth Library, Hays, Kansas 6701

Library, NP Wildlife Res. Center, P. O. Box 1747, Jamestown, N. D. 58401

Dwight B. Waldo Library, Serial Records, W. Michigan Univ., Kalamazoo, MI 49001

Keokuk Public Library, 210 N. 5th, Keokuk 52632

The Science Ref. Library, Bayswater Branch, 10 Porchester Garden, London W2 4DE, England

Low Moor Elementary School Library, Low Moor 52757

Serials Dept., Memorial Library, Western Illinois University, Macomb, Ill. 61455

Bio-Medical Library, Diehl Hall, Univ. of Minnesota, Minneapolis, Mn 55455

Serials Technical Serv., Mitchell Memorial Library, Mississippi State University, Mississippi State, Ms. 39762

Serials Dept., McGill University Library, 3459 McTavish Street, Montreal 112 Quebec, Canada H3A1Y1

Russell D. Cole Library, Cornell College, Mt. Vernon 52314

Wilcox Library, William Penn College, Oskaloosa 52577

Learning Resources Center, Central College Library, Pella 50219

Science & Engineer Lib., Washington State University, Pullman, Wash. 99164

Dist. Eng. U.S. Army Engineer Corps of Engineers, Clock Tower Bldg., Rock Island, Ill 61201

Dordt College Library, Sioux Center 51250

Public Library, Sioux City 51100

Morningside Library, 4005 Morningside Avenue, Sioux City 51106

St. Cloud State College, Learning Resources, Periodicals, St. Cloud, Mn 56301

Serials Section, Oklahoma State University, Edmon Low Library, Stillwater, Oklahoma 74074

Serials Dept. -- Library, U. of Illinois, Urbana, Ill. 61801

I. D. Weeks Library, South Dakota, State University, Vermillion, S. Dak. 57069

Central Missouri State University, Periodicals Dept.--Library, Warrensburg, Missouri 64093

Waterloo Public Library, 626 Mulberry, Waterloo 50703

Welton Elementary School Library, Welton 52774

Acquisitions Department, Eastern Michigan University, University Library, Ypsilanti, Mich. 48197

SOCIETIES

Quad City Audubon Society, 2309 - 9th Avenue, Moline, Ill. 61265

Des Moines Audubon Society, 3814 Carpenter Avenue, Des Moines 50311

Dubuque Audubon Club, 1890 Wood Street, Dubuque 52001